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Subscriptions & Subscriber Service: 800-548-0193 Traditional Building, P.O. Box 3000, Denville, NJ 07834-9965

Traditional Building (ISSN # 0898-0284) is published bi-monthly by Active Interest Media, 5720 Flatiron Parkway, Boulder, CO 80301

Subscription rate to professionals in architecture, interior design, construction and landscape design in the U.S. and possessions: \$24.95/yr. (6 issues). Not available outside the U.S. postal system.

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**June 2018** 

#### on the cover

Robert A.M. Stern Architects took top honors for New Design & Construction
More Than 30,000 sq.ft. for the Benjamin Franklin and Pauli Murray Colleges at Yale. Photo: @Peter Aaron / OTTO

#### PALLADIO AWARDS











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The Traditional Building Conference Series is a registered provider of AIA continuing education credits. Credits for NARI, AIBD, and certain NAHB classifications can be arranged. LEED accredited professionals and interior designers should contact the education director to determine if any courses have been registered for continuing education credits with the IDCEC or the USGBC.

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- Tour A -The Eating Clubs of Prospect Avenue
- Tour B -Sketching Classicism
- Tour C-Industrial Adaptation: Roebling Lofts Tour, Trenton, NJ- limited to 25 people Advance Registration Required
- Tour D: The Julis Rabinowitz Building and Louis A. Simpson International Building, formerly 20 Washington Road
- The Math and Science of Architectural Beauty
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- Cleveland Tower and Princeton's High Reach Masonry Program
- Collegiate Gothic Repurposed: The Julis Rabinowitz Building and Louis A. Simpson International Building, formerly 20 Washington Road

#### For more information, please visit traditionalbuildingshow.com

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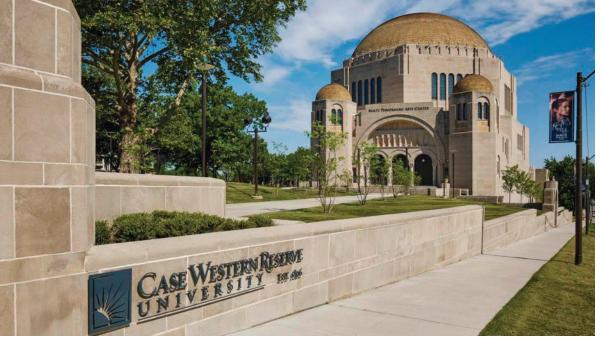
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Feature: Thorndale Farms
Profiled in this issue, our
Catena Chairs and Boat Ton

Catena Chairs and Boat Top Conference Table sourced for Thorndale Farms. The light profile of our spindled Catena Chairs speaks to the open and airy surroundings.

Photo © Jeffrey Totaro

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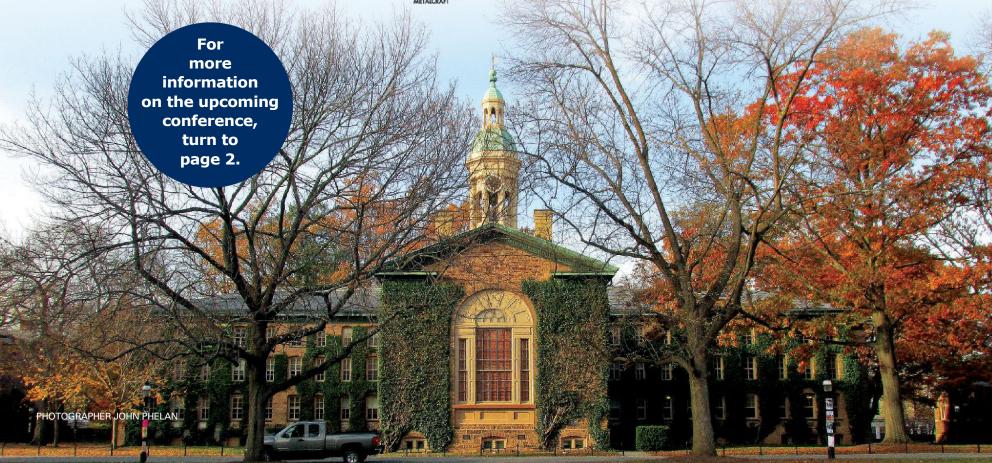




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#### TUESDAY, SEPTEMBER 25, 2018, AT 2PM EASTERN

#### AN INTRODUCTION TO ORNAMENTAL METALS

1 AIA HSW Learning Unit

#### Speaker: Douglas Bracken, Wiemann Metalcraft

This course will provide an overview of different types of metal alloys used for ornament, fencing, lighting and more. The session is organized to support architects' efforts to integrate the use of metal ornament into projects for new construction, historic preservation, residential, commercial, and institutional work. You will learn about production methods and finishes for the metal alloys.

After attending this session, participants will know or do the following:

- List the basic mechanical properties of and differences between the most commonly used metal alloys including wrought iron, cast iron, steel, aluminum, brass, and bronze.
- Compare and contrast casting and forging in the production of decorative metal products.
- Describe the most common finishes applied to decorative metals.
- Consider how changes in the manufacture of ornamental metal components and fencing have given architects more options for their use in projects today



#### **TUESDAY OCTOBER 2, 2018, AT 2PM EASTERN**

#### **DESIGNING SECURITY AND SWING: LOCKS, HINGES AND THEIR APPLICATIONS**

1 AIA Health/Safety/Welfare Learning Unit

#### Speaker: Betsy O'Day, Business Development Manager, Nostalgic Warehouse

Responsible design work demands good specifications and a knowledge of options for all types of architectural elements, including door hardware, such as locks and hinges. This session will provide a brief history of locks and hinges; an overview of five different lock types; a summary of lock operation and handing by different users, such as right-hand and left-hand applications; and a review of appropriate sizes and weights for various doors.

The presentation will address ANSI standards for finishes and cycle-testing and UL fire ratings. Different types of keying systems including high security and electronic keys will be discussed. The session will conclude with questions and answers.

After attending this session, participants will know or do the following:

- Compare and contrast tubular, cylindrical, mortise, multipoint and rim locks.
- Assess and apply size and weight considerations for common door sizes and cycles.
- Consult ANSI standards, UL ratings and building codes when specifying hinges and locks.
- Consider the range of users when selecting locks and hinges for a variety of installations.



#### JUNE 12, 2018 AT 2PM EASTERN

GLASS AND WINDOWS: TECHNOLOGY AND PERFORMANCE

1 AIA HSW Learning Unit

#### Speaker:

Kyle Sword, Manager Business Development, Pilkington North America



#### **ON DEMAND**

TRADITIONAL MATERIALS, CONTEMPORARY METHODS: A CASE STUDY OF CHRISTOPHER NEWPORT HALL

1 AIA HSW Learning Unit

#### **Speakers:**

Lori Snyder Garrett, FAIA, H. Randolph Holmes, Jr. AIA, Glavé and Holmes Architecture



#### **ON DEMAND**

**RESTORING AMERICAN HERITAGE TILE** 

1 AIA HSW Learning Unit

#### Speaker:

Keith Bieneman, Heritage Tile Verona, Wisconsin



#### **ON DEMAND**

TRADITIONAL DOORS: A MASTER CLASS ON CRAFT, FORM, AND FUNCTION

1.25 AIA HSW Learning Unit

**Speaker:** Brent Hull, Hull Historical, Inc.



#### **JUNE 19, 2018 AT 2PM EASTERN**

WINDOW RETROFITS FOR OCCUPANT COMFORT AND ENERGY EFFICIENCY

1 AIA HSW Learning Unit

#### **Speakers:**

Russ Eisenberg, Vice President, Sales, Indow



#### **ON DEMAND**

APPLYING BUILDING CODES TO HISTORIC BUILDINGS

1.5 AIA HSW Learning Unit

#### **Speaker:**

Theodore Vedock, AIA, Hammel Associates Architects



#### **ON DEMAND**

HISTORIC MASONRY: MORTAR AND METHOD

1 AIA HSW Learning Unit

#### **Speaker:**

John Speweik, Speweik Preservation Consultants, Inc.



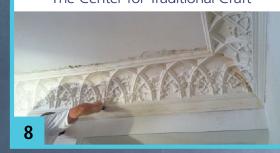
#### **ON DEMAND**

**TRADITIONAL PLASTER 101** 

1 AIA HSW Learning Unit

#### **Speaker:**

Patrick Webb, The Center for Traditional Craft





#### ON DEMAND

TRADITIONAL WINDOWS & HISTORIC SETTINGS: DETAILS DETAILS DETAILS

1 AIA HSW Learning Unit

**Speaker:** Steve Lien, CSI, AIA, Marvin Windows and Doors



### 2018 PALLADIO AWARDS

Produced by Active Interest Media, publisher of *Traditional Building* and *Period Homes* magazines, and organizers of the Traditional Building Conference

### Excellence in Traditional Architecture

he 17th annual Palladio Awards competition recognizes 15 firms for outstanding work in traditional design, six in the commercial, institutional and public architecture category and nine for residential work. All winners enhance the beauty and humane qualities of the built environment through creative interpretation and adaptation of design principles developed through thousands of years of architectural tradition.

The Palladio competition is the *only national* awards program that honors achievement in traditional architectural design. It was created in 2002 by Clem Labine, founder of *Traditional Building*, *Period Homes* and *Old House Journal* magazines. "In 2001, I decided that *Traditional Building* and *Period Homes* magazines should launch an annual awards program to honor excellence in traditional design," says Labine. "Up to that point, nearly all architectural design competitions were controlled by juries under the sway of modernist ideology. The result was that designers of new classical and historically inspired buildings received virtually no professional recognition."

The awards are named in honor of Andrea Palladio, the Renaissance architect who created modern architecture for his time while using models from the past for inspiration and guidance. The program applies the same criteria that Palladio used in his own work—projects should meet all of

the functional needs of contemporary usage while applying lessons learned from previous generations to create enduring beauty.

Says Labine: "Andrea Palladio was the paradigm I was looking for: A truly modern architect—a visionary man of his time—who made creative use of historic precedents. Thus were born the Palladio Awards."

The awards will be presented at a dinner ceremony during the Traditional Building Conference July 18-19 in Princeton, NJ. The six winning firms in the commercial, institutional and public category are featured in this issue. The residential winners will be featured in the July issue of *Period Homes*.

We congratulate all of the winners. For more information on the Palladio Awards, go to **www.palladioawards.com**. To see more about the awards over the years, go to **www.traditional building.com**.

#### The Trophies

The cast-bronze Palladio trophies are created by Historical Arts & Casting, Inc., of West Jordan, UT, using the traditional lost-wax method. The design is based on the anthemion, a motif that has been in continual use as an architectural enrichment for more than 2,500 years.

#### THE JURY

A jury of distinguished design professionals was selected by the editors of *Traditional Building* and *Period Homes* magazines. The 2018 jurors for commercial, institutional and public architecture were:



Calvert S. Bowie, AIA, Principal, Bowie Gridley Architects, Washington, DC



Brian Goeken, AICP, Division Chief, Technical Preservation Services, National Park Service, Washington, DC



James W. Shepherd, AIA, LEED, Director, Preservation & Facilities, Washington National Cathedral, Washington, DC



Craig P. Williams, Principal, David M. Schwarz Architects, Inc., Washington, DC



### The 2018 Winners for Commercial Design

NEW DESIGN AND CONSTRUCTION, MORE THAN 30,000 SQ.FT.

**Robert A.M. Stern Architects** for Benjamin Franklin College and Pauli Murray College, Yale University, New Haven, CT

NEW DESIGN AND CONSTRUCTION, LESS THAN 30,000 SQ.FT.

Voith & Mactavish Architects and G.P. Schafer Architect for Thorndale Farm New Corporate Offices, Millbrook, NY

#### RESTORATION & RENOVATION

**Anderson Hallas Architects** for the rehabilitation of Many Glacier Hotel, Glacier National Park, MT

#### **ADAPTIVE REUSE**

**Gerner Kronick + Valcarcel, Architects DPC** for the Child's Building and Ford Amphitheater at Coney Island, Brooklyn, NY

#### **PUBLIC SPACES**

**Beyer Blinder Belle Architects & Planners** for the restoration of the Main Fountain Garden, Longwood Gardens, Kennett Square, PA

#### CALL FOR SUBMISSIONS



### New Design and Construction, More Than 30,000 sq.ft. ROBERT A.M. STERN ARCHITECTS, NEW YORK, NY



**PROJECT:** Benjamin Franklin College and Pauli Murray College, Yale University

ARCHITECT: Robert A.M. Stern Architects, New York, NY; Robert A.M. Stern, Senior Partner; Graham S. Wyatt, FAIA, Project Partner; Melissa DelVecchio, AIA, Project Partner; Jennifer Stone, AIA, Project Partner

#### **KEY SUPPLIERS**

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1: View down Prospect Walk towards the Edward P. Bass Tower at Pauli Murray College. All photos: ©Peter Aaron / OTTO for Robert A.M. Stern Architects

2: View from Prospect Walk looking southeast towards Pauli Murray College's buttressed dining hall (center left) and the Marx-Better Common Room (center).

### New Colleges at Yale

t a time when some textbook examples of the historical revival quad—think Duke University's "Gothic wonderland"—are building anew outside of their architectural boxes, Yale University is completing a major expansion that is as of a piece with its existing campus as it is ground-breaking.

Two new residential colleges, Benjamin Franklin and Pauli Murray, the work of Robert A.M. Stern Architects of New York, will house some 904 new resident students—supporting a 15% increase in Yale's undergraduate enrollment—as the 13th and 14th colleges in Yale's residential college system, carrying forward the Gothic template of the University, and the ideas of architect James Gamble Rogers, in a seamless 21st-century set of buildings.

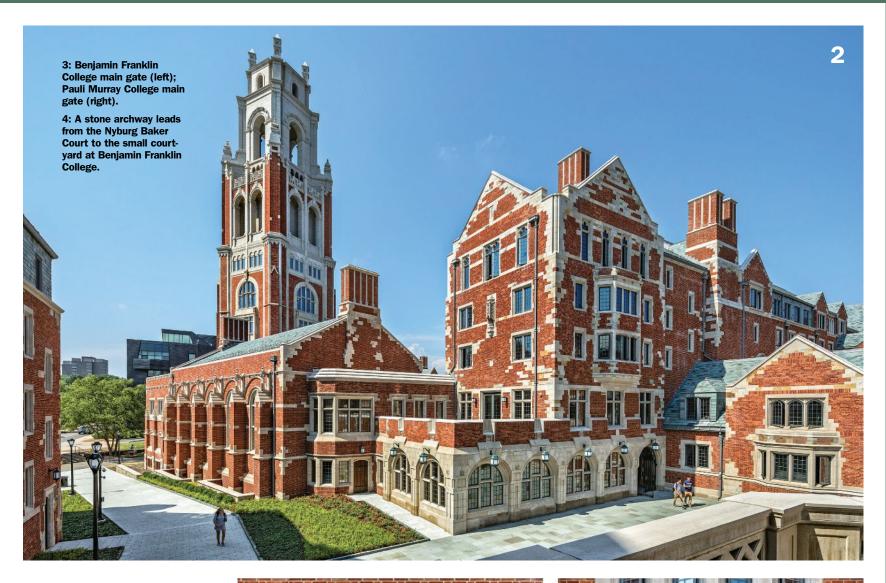
The residential college system at Yale has its origins in the early 20th century with one of its most influential alums, the architect

James Gamble Rogers. The 1917 Memorial Quadrangle designed by Rogers was the first use at Yale of an enclosed quadrangle for student living, but being basically a dormitory, it did not include other components of a true residential college such as a dining hall, a library, or a common room. In the 1930s, Yale decided to convert to a true residential college system, closer to the Oxford/ Cambridge model. Between 1929 and 1936 Yale built eight more colleges in the Gothic and Georgian styles, six designed by Rogers and two others designed by John Russell Pope and Pope's successor firm, Eggers and Higgins.

Today's new colleges are a milestone development—the first significant additions in 50 years—and yet not so radical. The last two new colleges to open, in 1962, were by architect Eero Saarinen in a Modernist interpretation of the Gothic. However, when planning for Franklin and Murray colleges began in 2008, there was little discussion about whether they should be modern or traditional. "Yale very much wanted these buildings to be traditional," explains Melissa DelVecchio, AIA, a Partner at Robert A.M. Stern Architects. "That's why they hired us." Robert A.M. Stern, a former Dean of the Yale School of Architecture, is well-known as a proponent of respect for context and the continuity of tradition.

As DelVecchio explains, "Both of the new colleges follow an established pattern for residential life that already exists on the Yale campus and is at the heart of the Yale College experience." Physically, each college comprises a series of court-yards around which are built student rooms, a house for the head of each college, apartments for the deans, and the college's own dining hall, library, and common room. "The colleges are not dormitories; they're communities," she emphasizes, "and this is a program type that's been part





of Yale's DNA since the 1930s."

Tradition and continuity have their symbolic worth, but they can also be turned to practical purposes. "At Yale, many of the existing colleges are Gothic," says DelVecchio, "but a few of them are in the Georgian style, recalling Yale's early history. Bob Stern argued that because most people consider the identity of Yale to be Gothic, and since most of the nearby former Sheffield Scientific School—now Yale's Science Hill shares Yale's Gothic expression, these new colleges would create a better connective context between the central campus and the buildings on Science Hill if they were Gothic."

In the end, she says the flexibility of the Gothic architectural language—allowing for asymmetry as well as symmetry—helped the architects solve complex planning issues across the 6.7-acre triangular sloping site. "The idiosyncrasies you see in the facades are true expressions of the program behind."

"The scale and complexity of the project are really significant," says Graham S. Wyatt, FAIA, a Partner at Robert A.M. Stern Architects. "It has a mile and a half of non-repetitive Gothic facade, all of which



needed to meet the exceptionally high standard of quality that characterizes the Yale campus."

He points out that extensive research by the design team was essential to achieving that standard. "Our team pursued research of several types. We looked carefully at the original Yale residential colleges, not just wandering around, but considering them carefully, measuring them, and photographing them. At the beginning of the design/development phase, we divided our siz-







able team into sub-teams that were assigned specific topics. Team members studied dormers, chimneys, or windows, for example, observing these across campus and documenting them carefully."

He adds, "Others studied light fixtures, wrought iron, and stonework and the detailing of its integration into brickwork. People became subject-matter experts in these areas and brought that expertise back to the team, so the team as a whole benefitted not only from our early document research but also from this focused, on-the-ground research"

One of the functions of the new colleges is to better connect the site visually with the rest of Yale. The campus is very long and thin, explains DelVecchio, two miles in distance north to south, at its midpoint almost cut in half by the walled Grove Street Cemetery, making the walk from the central campus to the site along Prospect Street, seem long and isolating. "Students told Bob Stern that the walk up Prospect

Street from the central campus to the site of the new colleges felt like the Ho Chi Minh trail," she says. "One of the main goals of our design was to collapse the perceived distance between these buildings and the main campus."

One of the many ways the architects achieved this was with the carefully studied placement of towers. They used a very large site model that included all of the main campus, including the James Gamble Rogers colleges, to study the alignment of

the towers with the axes of important streets of the main campus. "The new towers act as important visual markers and enter into a conversation with the other elements of the Yale skyline," says DelVecchio.

Enclosed quadrangles are also part of the template for the residential college system. "There's typically one large courtyard where the colleges celebrate commencement, sized to accommodate tents for students and their parents, DelVecchio explains." Students have their commencement ceremony on the old campus, but then they go back to each of their colleges to receive their diplomas. "Yale has a tradition of large, medium and small courtyards, but there's also a tradition of very small courtvards," notes DelVecchio. "We did a lot of studies of their size and scale on the main campus so that the new colleges' courtyards would feel like they belong."

Choosing characteristic Yale materials for the new colleges was much more than a matter of perception. "People generally think of Yale as being an entirely grey stone campus, but in truth, it's largely brick," says DelVecchio. Both the Georgian buildings, and several of the important Gothic buildings, like the Hall of Graduate Studies and the Law School, as well as many of the Gothic courtyards, are brick or a combination of brick and stone.

"James Gamble Rogers used stone selectively to emphasize important spaces on the central campus, often shifting from stone to brick within a single building or along a given street. Rogers's buildings go from

- 5: The Millstone Common Room at Benjamin Franklin College overlooks Prospect Walk.
- 6: The Crown Library at Pauli Murray College with ocular ceiling moldings.
- 7: The dining hall at Benjamin Franklin College with wooden pilasters and moldings (left). A window from the library looks out over the dining hall at the room's far end (right).
- 8: More than 400 pieces of carved stone ornament decorate the buildings. This one depicts Robert A.M. Stern himself.

mostly stone to mostly brick with more limited areas of stone detailing the farther they are from the center of campus,." The design team's focus was to follow the pattern of material use established by Rogers and to use a palette that would help to knit together the brick buildings at the perimeter of the central campus with the many brick buildings on Science Hill.

Like the Rogers facades at Jonathan Edwards College, the Hall of Graduate Studies and the Law School, the brick facades are embellished with Weymouth granite from Massachusetts, Indiana limestone and cast stone. "James Gamble Rogers also used cast stone," she says. "Limestone appears mostly at the ground floor for archways and other unique elements, while we took advantage of cast stone for more repetitive elements, like the student room window surrounds."

Prefabrication offered other efficiencies. For example, brick-andstone vaulted ceilings were cast at a factory in Canada, then shipped to the site and lifted into place in outdoor passageways. Chimneys—some active fireplace flues, but most concealing air intakes, exhausts and plumbing vents—were also fabricated off-site, as were the upper portions of the new 192-ft. Bass Tower. These strategies were important for controlling the budget for the 1.5 miles of facade.

DelVecchio points to the extensive program of carved stone ornament in keeping with the Rogers colleges, 400 pieces in all. While the many Gothic architectural details, such as buttresses, archways, and finials were designed by the architects, campus historian and artist Patrick Pinnell (Yale BA 1971, MA Arch 1974) was hired by Yale to design commemorative decorative panels that speak to the history of Yale and New Haven.

Masonry facades with a high wall-to-window ratio materials contribute to more than just traditional





appearances; they will also help the project earn a LEED Gold rating. The windows of the new colleges look like traditional Yale casements from the outside but are, in fact, very modern and energy efficient. They include a true leaded restoration glass panel on the outside, but behind that is a full insulated glass unit. Geothermal wells in the courtyards provide 10% of the energy savings needed to achieve LEED goals.

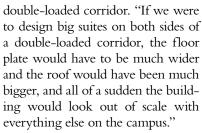
Heating and cooling for the student rooms are delivered through a passive valance system that requires neither fans nor ductwork. This heating and cooling strategy also has another advantage: because no ductwork was required, the team was able to design the buildings with floor-to-floor heights similar to those in James Gamble Rogers' buildings, allowing the architects to keep the proportions of their buildings similar to the Rogers precedents.

When James Gamble Rogers initially presented his designs for the Memorial Quadrangle to Yale, he presented two elements—a partial floor plan showing the residential module that repeated around the site, and a plaster massing model. Stern's team calls this "working from the inside out and from the outside in," DelVecchio tells us, and her team used the same process in designing the new colleges.

It's no mystery that James Gamble Rogers studied the buildings at Oxford and Cambridge Universities, but he took a much different approach than just "channeling" these medieval models for Yale. As DelVecchio explains, the Oxford and Cambridge colleges typically have one or two courtyards enclosed by buildings of a fairly uniform height. "Here in New Haven, Rogers' massing strategy was more complex. Rogers placed taller build-

ings on the north side of a courtyard and lower buildings on the south side to maximize sunlight in the courtyards." Stern's team followed this same concept.

Yale also challenged the design team to find a way to retain the essential spirit of the Yale entryway system. Traditionally suites at Yale were organized in vertical entryways comprised of suites containing a common room and bedrooms organized around a shared stairwell and bathroom, but this arrangement does not meet current egress and accessibility codes. Stern's team developed what they call a "modified entryway" where two stairwells are connected by a short corridor with an elevator and shared bathrooms. This modest expansion of the traditional Yale model meets current codes, and also allowed the team to keep the width of the floor plate narrow -35 ft. 6 in.-very close to the 33-ft. width of the Rogers module and much narrower than a fully



Continuity, once again, was the goal. "Yale wanted to retain the vertical entryway social structure, and we wanted to capture the same special sense of scale that the James Gamble Rogers buildings have," says DelVecchio. "The idea of making the new Yale residential colleges traditional, in both form and expression, is to ensure that students have the same Yale experience, whether they're living in the new colleges or the older ones."

– Gordon H. Bock

Gordon Bock is an architectural historian, instructor with the National Preservation Institute (www.npi.org), and a speaker. He can be reached at www.gordonbock.com.



### New Design and Construction, Less Than 30,000 sq.ft. **VOITH & MACTAVISH ARCHITECTS & G.P. SCHAFER ARCHITECT**



**PROJECT:** Thorndale Farm Corporate Offices, Millbrook, NY

**ARCHITECT:** Voith & Mactavish Architects LLP, Philadelphia; Daniela Voith, FAIA, LEED AP, Founding Partner; G.P. Schafer Architect; Gil Schafer, III, AIA, Founding Principal

#### **KEY SUPPLIERS**

**GENERAL CONTRACTOR:** Storm King Group, Montgomery, NY

LANDSCAPING: JSK Livestock, Inc., Clinton Corners. NY

WINDOWS & DOORS: Millbrook Cabinetry & Design, Millbrook, NY; Norwood, Scoudouc, NB

INTERIOR SCONCES: Scofield Lighting, Downingtown, PA

**CONFERENCE ROOM CHANDELIERS:** Circa Lighting, Savannah, GA

INTERIOR DOORS: Trustile, Denver, CO

METAL ROOFING: MetalTech USA, Peachtree City, GA

**LIGHTING:** Wesco Electra Supply, Poughkeepsie, NY

- 1: Thorndale Farm view from the main façade displays the ample, rambling volume of a local stable, replete with standing-seam metal roof and cupolas, but closer inspection shows a sophisticated treatment of windows and roof pitches. An arbor frames the main entrance. All photos: Jeffrey Totaro
- 2: The private side of the building wraps around a central courtyard that all primary spaces can access for business entertaining or staff relaxation. Transplanted heirloom apple trees stand in the foreground.
- 3: Visitors entering reception room may continue to the courtyard through a bank of large windows topped by multiple transoms.
- 4: Heavy timber-and-steel trusses support the clear span of the reception room as they might in agriculture. More transoms carry light across a partition, which also holds a 19th century engraving of local farm life.

## Traditional Corporate Offices

he 2018 Palladio Award for New Design and Construction, less than 30,000 sq.ft. goes to two firms—Voith & Mactavish Architects and G.P. Schafer Architect—for the Thorndale Farm New Corporate Offices in Millbrook, NY. Located in upstate Dutchess County, Thorndale Farm is the management office for a private trust. The winning firms are longstanding colleagues who brought together diverse experience along with complementary skills and aesthetics.

Turns out the partnering was much more than a happy coincidence. Explains Daniela Holt Voith, FAIA, LEED AP, "The fun thing about our collaboration is that Gil's practice centers primarily around residential work, and our practice centers primarily around institutional, with some commercial work,

so we really tried to bring together two different approaches and areas of expertise in a very functional office space."

Adds Gil Schafer, III, AIA, "Teaming up with Daniela was the perfect combination because we have worked together for many years at Millbrook School, where she's designed a number of buildings, and I've been the head of the building committee. So that proved to be the winning formula to get the project."

That balance between institutional and residential became the axis of a design that deftly straddles traditional building types and contexts. Thorndale Farm houses business offices for a family that has long and deep ties to The Village of Millbrook and its community, once an agricultural center that shipped produce and farm goods to New York City by rail. "The site isn't

right on the main street of the village, but off on a side street that, historically, was close to the railroad station," explains Voith, "so in searching for appropriate inspiration, we really looked to both agricultural buildings and some railway buildings as design precedent."

Recalls Schafer, who knew the client and their family from residential commissions, "I thought it would be interesting to make a building that connected to the family's history, which dates to the 18th century, and their farm there, and that led me to think about giving the building a kind of agrarian character." The client, in turn, loved the idea of relating to traditional Hudson Valley farmsteads and their own property. While that tradition includes both Federal and Greek Revival architecture, "the barns on the family farm are from the latter





half of the 19th century, and even early 20th century," says Schafer, "and that seemed a better model for the program that we had to accommodate."

Thorndale Farm is also very much a building nurtured by the local vernacular—in fact, from structures that are within a mile or less of the site. "We drew the clipped gable roofs with a little extra kick specifically from some buildings right in the area," says Voith, "and the same is true with the historically appropriate materials, such as the clapboard siding and the metal roof."

Schafer agrees. "The roof of the big bar along the main street ends in clipped gables—that is, gable-ends that become hips—and that's very much what you see in the later 19th-century barns around the community." He adds, "There are a number of houses in the village that have little barnlike outbuildings, so we looked at that tradition as well to make sure that Thorndale Farm felt in character and in scale with this village, and didn't overwhelm other buildings on the street."

Designed for about 25 staff, plus executive offices, conference rooms and some open work areas, the plan of Thorndale Farm chases its tail so to speak, and for good reasons. "A big driver of the building's program was, what might be called, an entertainment function," explains

Voith, "so the building is a big U-shape that forms a courtyard in the middle." This, she says, allows the organization's members to meet and have their annual or biannual board meetings comfortably, as well as give office staff a place to go outside and relax away from the commercial street. "The board room is important, and there's also a catering kitchen."

Schafer adds that building around a courtyard serves a less obvious but equally important function. "The building presents a public face to the town, but also has an interior, completely private face that is the outdoor room. It all connects axially from the front door, into the public reception area, and then to that outdoor courtyard."

Wrapping the building around a courtyard solved a practical issue too by enabling the architects to create more walls with windows exposed to natural light. "They really wanted the building to be infused with light," recalls Schafer, "no solid walls between offices, just glass walls, so that light permeates every space." This directive, he says, is what guided the architects' thinking about having as many exposures and windows as they could. "In making that courtyard, we wanted to take the biggest advantage of light as possible," says Voith, so in making the building thin in terms of width,









that natural light can really come to the center of the building, especially in the high-volume spaces."

Windows were essential for bringing in light and creating views. "We worked hard to keep the windows in proportion," says Voith, "and the window panes in proportion with the building, and consistent with the style." Befitting the building's wood architecture, traditional wood windows became a

natural choice. "We used a lot of transoms," says Schafer, "to draw your eye up and bring more sky into the spaces." These transoms not only transmit as much light as possible, they are yet another nod to the stable buildings on the family farm where they also appear.

Voith says to reinforce that indoor/outdoor coherence, "we put flagstone paving in the courtyard, and then slate in the interior, so that

when the doors are open it's a nearly seamless connection."

Before even considering the design issues, the architects ran into a mechanical boondoggle in the form of an existing drainage pipe. "That pipe, which starts across the street, was six feet in diameter and handled a good portion of the storm water from a section of the village," recalls Voith. "We really couldn't move it, because we didn't want to replace everything under the street, so along with the owner and the civil engineers, we decided that the prudent thing to do was to enlarge the line. So, it became a challenge to rebuild the pipeline during the course of also building over it."

The pipe, which Voith describes as "pretty much dead on-center of the building," travels front to rear and underneath the courtyard, where it reaches light in a swale that takes any storm surge. "Part of the project was to plant in the side slope of that swale so that its side walls are really stabilized."

The architects made architectural hay with the finishes too, and they worked with color consultant Eve Ashcraft, a longstanding Schafer associate, to develop a color palette both for the interior and the exterior. "That dark green on the sashes of the doors and windows is a nice foil

for the softer sage green on the exterior," says Schafer, "and was a nod to the colors at the farm." He adds, "The dark muntins help them kind of de-materialize a bit as you look out," a common practice in the 19th century, "and it was nice to carry that through to the inside as well."

Says Voith, "The inspiration for the interior palette comes from traditional Shaker paint colors, after looking at their boxes and the kinds of paint they used, and there are some great moments of surprise." For example, the staff kitchen, which is an iron oxide red, "might seem completely out of left field, but is really part of that whole color palette," plus the rest rooms and the interiors of the closets have accent colors with the same source. "On the exterior, we didn't want a jolt from the outside to the inside, so those are also Shaker inspired."

As the architects developed the interior and the exterior—even the color palette of the interior—they studied reference material for stables and other agrarian structures. "Painting the millwork a color, but letting the drywall surfaces be a lighter, neutral, off-white, came from some of the stables we looked at," says Schafer.

Even the zinc roof strives for a farmstead feel. "Modern standing-seam metal roofs use continuous pans from the eaves to the top of the ridge," says Schafer. "Older buildings always had shorter runs of metal, so we wanted the alternating pan seams that you find in old barns. The running bond pattern produced by the seaming of the pans avoids the monolithic single pan and looks more authentic in terms of historic precedent; it also gives the roof texture."

Schafer explains that they also took cues from a thoroughbred stable on the clients' farm, which dates to the 1930s. "It has both a wood character and steel trusses, which we alluded to in our reception entry area. Then, the whole inspiration of stable architecture, with beadboard wainscoting and glass-wall partitions with true divided lights, was all a reference to buildings that exist on the family farm." Hard to find a nicer office to get in harness.

- Gordon H. Bock

Gordon Bock is an architectural historian, instructor with the National Preservation Institute (www.npi.org), and a speaker. He can be reached at www.gordonbock.com.

- 5: Private terraces lie outside the formal conference room and the Chief **Operating Officer office.**
- 6: An anteroom to the formal conference room offers casual seating for breaks.
- 7: The formal conference room, which seats 12 to 16 and can also double as a dining room, is designed to be secluded and private.
- 8: The double-height conference room provides easy access to the central
- 9: Sun suffuses circulation in this interior corridor astride the formal confer-
- 10: The Chief Operating Officer's office is the only room where the oak woodwork has a natural finish.











### Restoration & Renovation ANDERSON HALLAS ARCHITECTS, GOLDEN, CO



**PROJECT:** Many Glacier Hotel Rehabilitation, Glacier National Park, Babb, MT

**ARCHITECT:** Anderson Hallas Architects, Golden, CO; Elizabeth Hallas, AIA, Principal

#### **KEY SUPPLIERS**

**STRUCTURAL ENGINEERING:** JVA Consulting Engineers, Boulder, CO

**MECHANICAL ENGINEERING:** 360 Engineering, Golden, CO

**ELECTRICAL ENGINEERING:** AE Design, Denver, CO

LIGHTING DESIGN: Lynn Redding, Missoula MT

LANDSCAPE DESIGN: DHM, Denver, CO

**GENERAL CONTRACTOR:** Swank Enterprises, Kalispell, MT

RECONSTRUCTION OF THE DOUBLE HELICAL LOBBY STAIRCASE: Northwest Cabinet Works, Kalispell, MT

**WOOD DOORS:** Moderne Cabinet Shop, Great Falls, MT

**HISTORIC WINDOW RESTORATION:** East Slope Restorations, Valier, MT

WOOD FLOOR REPAIR: Ramsey Hardwood Floors, Inc., Bozeman, MT

**MASONRY:** Colter Contracting & Masonry, Three Forks, MT

**LANDSCAPE:** Doepker Landscaping, Kalispell, MT

**LIGHTING FIXTURES:** Arroyo Craftsman, Baldwin, CA; Hammerton Lighting; Rejuvenation, New York, NY

1: A twilight view of the exterior of Many Glacier Hotel across Swiftcurrent Lake. All photos except historic: Mark Bryant Photography

2: A look at the rehabilitated lobby with its Chinese lantern scheme.

3: A historic photo of the lobby, ca. 1930, showing the original Asianinspired lighting. Courtesy of the Minnesota Historical Society

### Restoring an Icon

any Glacier Hotel may have celebrated its triumphant revitalization in September 2017, but its path to success was anything but easy. Anderson Hallas Architects Principal Elizabeth Hallas, AIA, LEED AP BD+C, says, "Many Glacier Hotel is one of the 'great lodges' of the National Park system, so we were thrilled to be a part of saving this legacy."

The hotel is located in what's described as the "Switzerland of North America," in the northeastern area of Glacier National Park. The 140,000-sq.ft. structure, originally constructed by the Great Northern Railway between 1914-1917, encapsulated the spirit of a growing population yearning for adventure and travel. After all, the Great Northern's declaration to travelers at the time was, "See Europe if you will, but see America first." Inspired by design elements of enchanting chalets of the Swiss

mountains, the five-story secluded hotel is comprised of two suites, seven family rooms and 205 guest rooms with an array of lakeside, deluxe, standard and value lodging choices.

"The surrounding landscape is equally, if not more so, majestic. Perched on the edge of Swiftcurrent Lake, the hotel has sweeping views of the lake, forest and steep, mountain peaks projecting skyward," says Hallas.

The location is impeccable—the monumental, rustic hotel is within Glacier National Park, which was established in 1910. Glacier is a World Heritage site and an International Peace Park shared with Canada, and a breathtaking array of natural beauty. The hotel's story speaks to the importance of preserving the exquisiteness of America's backcountry along with the architectural masterpieces that serve as public resting places after a long day exploring the wilderness.

However, harsh environmental

elements of Glacier's mountains beat down on the massive timber structure year after year. As each summer season occurred, the issues mounted: burst pipes, structural distress, and as time progressed, over-taxed electrical systems.

Hallas says, "The hotel had suffered from decades of damage from its severe climate. The last upgrade was in the early 1950s and the hotel has had limited funding for its regular maintenance needs. All of these aspects contributed to the dire condition the hotel was in when our work began."

By 1996, the hotel's wellbeing was of grave concern and the National Trust listed the Many Glacier Hotel on "America's 11 Most Endangered Places." By the turn of the 21st century, the hotel had endured nearly 90 years of well below freezing temperatures, substantial snowfalls, galeforce winds, flooding and wildfires. The National Park Service (NPS), Many Glacier's steward, seriously



considered shuttering the hotel for good; it faced tremendous funding backlogs as well.

By the good grace and fortune of an undaunted group of stakeholders, who set in motion a long-term commitment to crusade for saving this national treasure, the hotel persevered

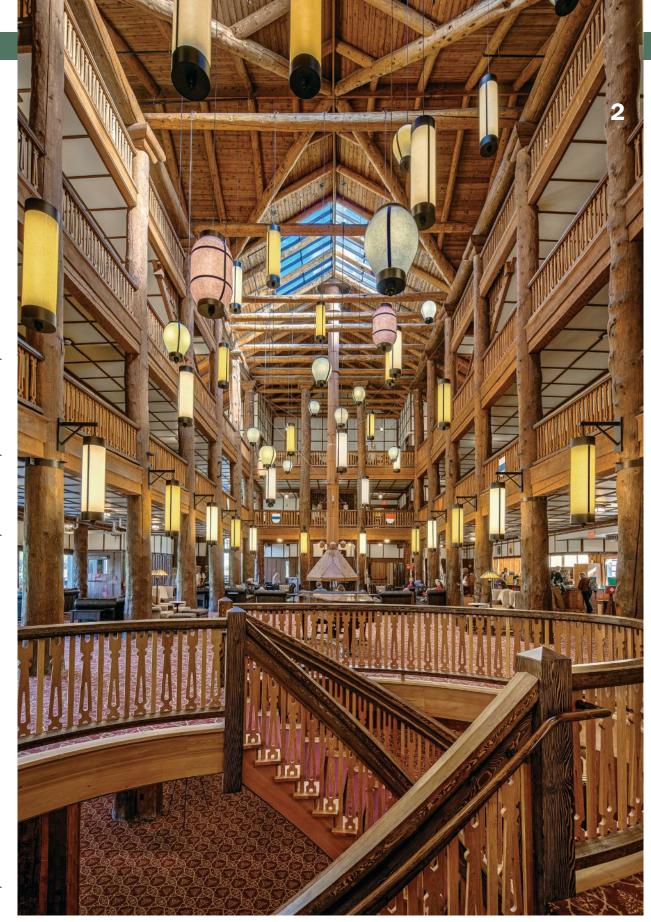
The NPS formed strategic partnerships with the Glacier National Park Conservancy and the park's concessioners through funding cycles that spanned nearly two decades. It was through the use of these public/ private partnerships and a supported phased approach, the daunting rehabilitation transformed into a series of smaller sequential projects that were more likely to receive funding and also guarantee the hotel's continuous seasonal operation. Construction work was only conducted from April to December, allowing portions of the hotel to remain open to guests each summer season.

NPS called upon Anderson Hallas, known for its deep expertise of historic buildings in a variety of climatic regions, to spearhead the interior rehabilitation, yet overall the project progressed for 17 years, from 2000 to 2017, with a multi-phased approach, totaling \$40 million in construction costs.

This is not the firm's first National Historic Landmark rehabilitation. It has accomplished the revitalization of many, as well as millions of square feet of National Register listed and landmark buildings, to garner awards from the National Trust, Preserve America's Treasures, and many local and statewide preservation organizations, due to its creative approach. All of the firm's preservation work is anchored in the Secretary of Interior's Standards for the Treatment of Historic Properties.

"There were many challenges in upgrading the building, but chief among them was that the failing pipes, damaged wiring and compromised framing were concealed within the walls and floors, and therefore not visible," says Hallas.

She says in her investigational work, the firm chose over 40 select areas to open up the walls and ceilings in 24-in. squares to see what the damage entailed. The team, including structural engineering firm (JVA Consulting Engineers), mechanical engineering (360 Engineering, Inc.), and electrical engineering (AE Design), all benefitted in seeing behind the walls to better design the repairs.



"It was quickly determined that the best and most efficient solution (in terms of time expended and dollars spent) was to remove the finishes which were typically wood wainscotting and an early gypsum product, to allow all of the building's systems (plumbing, electrical, fire suppression, structural repairs) to be completed comprehensively. This approach allowed for a safe lodging experience for the visitors of generations to come," says Hallas.

The approach entailed the reinstallation of salvaged historic ele-











ments, including wainscot, lavatories, tubs, doors and new high efficiency (and historically appropriate) custom lighting fixtures using recycled materials. Existing structures (e.g. historic chimneys) were harnessed to furnish seismic resistance and a comprehensive assimilation of the International Existing Building Code, resulting in creative solutions for addressing code issues. The firm not only preserved the hotel's rich character but also upgraded various failing life safety systems including seismic retrofits, structural stabilization, fire suppression and plumbing system replacement, and code compliant electrical system installation.

#### **FIVE DESIGN PHASES**

Phase one, completed by others, tackled exterior maintenance—roofing, wood and window restoration and painting. The second phase established new public restrooms and a \$1-million hazardous material abatement. Phase three involved interior rehabilitation of the north half of the hotel, including complete MEP replacement, structural and seismic upgrades, architectural finishes, and the restoration of the dining room with the recreation of its historic lighting and pergola.

The fourth phase, interior rehabilitation of the south half of the hotel and the grand lobby, required the recreation of the lobby's original, Asian inspired light fixtures and feature helical stair, which had been removed in the 1950s. They were recreated to accommodate modern code standards. It also reintroduced the connection between the grand lobby's ground level and the lake.

A careful and meticulous approach was taken by the design team to reconstruct lost historic features while concealing critical health and life safety upgrades. The design team made special touches wherever possible, unfolding and restoring the

- 4: The rehabilitated dining room with its new pergola and lantern lighting scheme
- 5: The helical staircase, running from the lobby to basement.
- **6: A historic photo capturing the original helical stair, ca. 1920.** Courtesy of the Minnesota Historical Society
- 7: A look into a typical guest room, complete with historic finishes.
- 8: A glimpse of the rehabilitated south bridge with a stunning view across the
- 9: The hallway is now restored with its historic finishes reinstalled.
- 10: The hotel's north bridge common area and fireplace.

hotel's original historic elements.

Throughout the project, numerous innovative design and engineering techniques were used. For instance, utilizing forensic investigations, historic photos and on-site reconnaissance, the team uncovered a unique "east meets west" historic character of the dining room and lobby to carefully restore the signature spaces, now reinvented with sustainable materials and energyefficient lighting. Resourceful, creative lighting strategies reinstated the original interior hallway transom windows while maintaining acoustical privacy on the guest rooms' side.

The dining room's iconic chimney was dismantled stone by stone, each labeled and set aside. A web of steel and concrete reinforcement was then constructed to stabilize the chimney and the stones were replaced, concealing the stabilizing elements.

The historic fabric of the hotel stands strong. It is now safe and sound, and shows off its rustic, oldworld style. A true indulgence for any of its nearly 46,000-overnight and 500,000-day visitors it receives annually.

"Today, this awe-inspiring hotel provides guests a feeling of pride—that this national landmark has been saved and that the National Park Service prioritized the hotel's stewardship for future generations to enjoy. It has been an honor for our firm to play a part in this legacy," says Hallas.

- Emily O'Brien







### Adaptive Reuse/Sympathetic Addition GERNER KRONICK + VALCARCEL, ARCHITECTS, NEW YORK, NY



**PROJECT:** Restoration of Childs' Restaurant and addition of Ford Amphitheater at Coney Island, Brooklyn, NY

**ARCHITECT:** Gerner Kronick + Valcarcel, Randolph Gerner, AIA, Principal; Joe Barbagallo, AIA, Principal; Silke Rapelius, AIA, Associate Principal; Rachel Oehl, Associate.

#### PRESERVATION CONSULTANT:

Kaese Architecture, Diane Kaese, New York, NY

#### **KEY SUPPLIERS**

CONSTRUCTION MANAGER: Hunter Roberts Construction Group, New York, NY

LANDSCAPE ARCHITECT: Michael Van Valkenburgh Associates, Brooklyn, NY

TERRA COTTA MANUFACTURER: Boston Valley Terra Cotta, Orchard Park, NY

**MASONRY CONTRACTOR:** Pullman SST, New York, NY

MASONRY: ConProCo, Helifix and BASF

HISTORIC BRICK: Gavin Historical Bricks, Iowa City, IA

- 1: Restored by Gerner Kronick & Valcarcel, Architects, with preservation consultant Diane Kaese, the Childs' Building on Coney Island, in Brooklyn, NY, has been returned to its original function as a full-service restaurant. The program also called for the addition of a 5,000-seat amphitheater and the restoration of the fanciful, ornate terra-cotta ornament on the facades. Photo: Adrian Wilson
- 2: The Childs' Restaurant in 1924, as designed by Dennison & Hirons Architects. Photo: The American Architect magazine, September 10, 1924, courtesy of Diane Kaese
- 3: The historic building had been abandoned and neglected for many years. It was named a New York City Landmark in 2002. The terra-cotta ornament was designed to look like the building washed up out of the sea covered with sea detritus. Photo: Diane Kaese
- 4: This view of the restored building shows the large (8-ft. tall) arched windows on the boardwalk and east facades, the rooftop pergola, and a bit of the outdoor amphitheater seating area on the far left. Photo: Adrian Wilson

### Childs' Building Makes a Comeback

f you were walking along the boardwalk in Coney Island in the 1920s after visiting Luna Park, Steeplechase and other attractions, you would probably be drawn into Childs' Restaurant by the open friendly atmosphere and the five large open windows with a baking station located in one of these. You would definitely notice the ornate terra-cotta ornament depicting maritime themes on the facade of the building.

Fast forward to 2017, and the building is back as a fine-dining restaurant and bar, with an added amphitheater and rooftop seating. It is no longer a Childs' Restaurant, but much of the historic building has been restored and brought up to date

One of the first fine-dining restaurant chains in the country, Childs' was started by two brothers, Samuel S. and William Childs. Noted for cleanliness and quick

and efficient service with waitresses wearing white starched aprons, the first location opened in 1898 in the Merchants Hotel on Cortlandt St. in Manhattan. By 1928, they operated 112 restaurants in 33 US and Canadian cities, according to *Appetite City*, a book by former *New York Times* food critic William Grimes published in 2010.

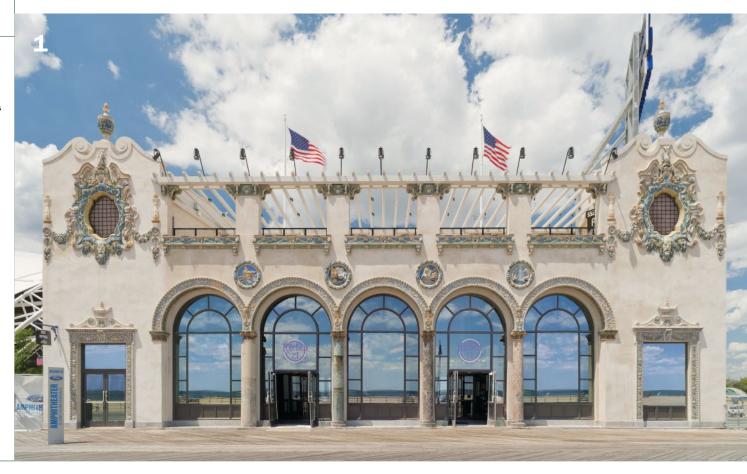
One of the more spectacular locations was the Childs' Restaurant on the boardwalk in Brooklyn's Coney Island. Facing the ocean, the 85,000-sq.ft. building was designed by Dennison & Hirons with Spanish Colonial Revival style elements to create a truly memorable structure.

The facade was covered with maritime terra-cotta ornament, designed to look like it had washed up out of the sea, covered with all sorts of sea life, both fanciful and realistic. More than 500 multi-colored terra-cotta castings of seaside themes such as sailing ships, roll-

ing waves, seashells, wide-mouth smiling fish and Neptune sculptures adorned the building. The original terra cotta was modeled by Max Keck; the colorist for the project was Duncan Smith. Atlantic Terra Cotta Company produced the terra cotta.

The depression in 1930 hit Childs' as well as other restaurant chains. Although they stayed in business a few more years, the chain filed for bankruptcy in 1943 and the Coney Island building was sold to the Ricci family in 1947. They made minor alterations to the facade of the building and manufactured candy there until 2003. About that time, the building was designated a New York City Landmark.

In its report, the Landmarks Preservation Commission described it in this way: "Across most of the main facade are five large archways which have been enclosed across their top with stucco and on the lower portion by roll-down gates.



Plain, round cement columns with terra-cotta capitals separate each arch. Non-historic murals of Coney Island scenes are located in the upper portion of four of the arches. Each arch is embellished with decorative terra cotta along the front edge and inside the reveals. The terra cotta consists of repeating, blue and green images of various fish and seashells. Four rondelles are located in the spandrels of these arches, each with maritime motifs in colorful terra cotta. There is another bay located to each side of the central arcade."

The unique building lay vacant and neglected until 2014, when the New York City Economic Development Corp. partnered with owner iStar Financial and Coney Island USA, a nonprofit, to fund a \$60-million renovation of the abandoned, derelict building.

Enter Gerner Kronick + Valcarcel, Architects, a New York City firm with a distinguished record in historic preservation. One of their recent projects was the restoration of the Beekman Hotel in Manhattan, a 2017 Palladio winning project. The program at Coney Island called for the restoration of the ornate terra-cotta exterior, a redesign of the interior to again function as a restaurant and the addition of a 5,000-seat covered outdoor amphitheater.

"Originally the borough president was looking for a site for community concerts and theatrical events, and he was hoping to do this in a band shell on the east end of Coney Island," says Randolph Gerner, AIA, principal, Gerner Kronick + Valcarcel, Architects. "The residents objected and then the developers noticed the Childs' building. The idea was to save the building and to create a park and a 5,000-seat amphitheater on the site. We had to go through a variety of agencies to have the site approved as an entertainment venue. It took a lot of effort to convince the different agencies, but after all was said and done, they allowed us to give the Childs' building a new life."

The 335 x 100 ft. building is essentially a large masonry box. While the exterior had somewhat weathered the storms of time, the interior had been gutted and little of the original material remained. The design team returned the building to its original purpose as a 2,000-sq. ft. full-service Kitchen 21 restaurant with seating for 400 and a 90-ft. bar. The ground floor below, at street level, provides support services









such as a loading dock, offices and restrooms. A rooftop terrace with a pergola was added.

Gerner explains that the historic building offered quite a few challenges. "We had to take the playfulness of the original architecture, and recreate it into a new facility," he says. "Often you change a warehouse into a residential building, but adapting a large footprint and turning it into a restaurant and theater building at the same time was a different challenge."

To create the new amphitheater and adjacent seating area, the architects removed a portion of the west wall and inserted a stage just inside the building. The stage can be viewed from the restaurant or from the exterior seating, which is shaded with a fabric roof and also provides ocean views. During the winter months, the stage is closed off with large doors.

The addition of the stage within the existing building required other structural changes. For example, the stage tower columns had to be threaded down through the existing floor slabs to new foundations.

Perhaps the most remarkable feature of the building, the fanciful terra-cotta facade, was restored by

Boston Valley Terra Cotta, working with glaze consultant, Christine Jetten, who helped develop the glazes. Diane Kaese, the historic consultant for the project, noted that "Glazing was a challenge. Extreme care was taken to match the original glazes as closely as possible. We ended up with 36 glazes after reviewing hundreds of samples."

ing," says Kaese. "I don't classify it as terra cotta; I classify it as art. The sculpting was incredible. There was both bas-relief and three-dimensional sculpting and the pieces were huge. There are three major assemblies. Some of the individual pieces in the assemblies weighed over 300 pounds. The depth of the units varied throughout the assemblies with some pieces being more than 18 inches deep. In addition, the joints were ¼ in. wide creating very tight tolerances."

Kaese adds: "The sophistication and humor of the installation became apparent the more we worked with the pieces. When we removed the roof leaders from the medallions, we found that the leaders covered a waterspout in the center of the medallion. Classical forms were executed with nautical motifs: egg

"The terra cotta was astonish-







and dart became fish and urchin. Lobsters, rather aggressive fish and happy snails all served as brackets."

She explains that many pieces of the original terra cotta could be reused but new cartouches, medallions and the window and door surrounds had to be recreated. Existing pieces were removed and sent to Boston Valley Terra Cotta to be used as models. "There was quite a bit of algae growth which caused damage over the years and broken pieces due to the rusting of steel elements." Kaese says.

The new terra-cotta pieces were installed using modern stainless-steel anchors. "Resetting the new terra cotta was essentially a large, threedimensional jigsaw puzzle. It was a challenge to manipulate and install the pieces with the minimal joint

size. A total of 752 new terra-cotta pieces were replicated for the building, 102 were salvaged and reset, and 171 were repaired on site."

Another challenge, she notes, was the west wall, where the amphitheater was installed "It was made of many different colors of common brick. We had a lot of freeze-thaw damage, delaminated brick faces and other damage. While a good portion of the wall was removed for the stage, we removed the outside wythe of brick and installed whole new wythe on the wall that remained. We used salvaged brick and it blended very well. The new brick is slightly harder and wasn't a perfect match, but it was pretty darn close to the characteristics of the original common brick."

"We also used the salvaged com-

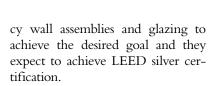
- 5: The terra-cotta ornament framing the boardwalk windows after restoration. Photo: Adrian Wilson
- 6: Removing the terra-cotta ornament led to many discoveries such as downspouts and brackets. The ornament included both real and fanciful maritime figures. Photos: Diane Kaese
- 7: Every effort was made to match the original glazes on the terra cotta. A total of 36 glazes were selected after examining hundreds of samples. Photo: Diane Kaese
- 8: Each assembly is made of many pieces. Photo: Diane Kaese

- 9: A cartouche in 2012, before restoration. Photo: Diane Kaese
- 10: This restored cartouche shows the artistry of the original work by the **Atlantic Terra Cotta Company following** models by Max Keck and coloration by Duncan Smith and of the recent restoration work by Boston Valley Terra Cotta. Photo: Adrian Wilson
- 11: Outdoor seating and a pergola were added to the roof. There was no evidence that these existed in the original Childs' Restaurant. Photo: Adrian









To deal with future storms, Gerner and his team used materials that would be resistant to water and storms. Acoustic draperies were also added to help keep the sound inside the building.

The new restaurant and Ford Amphitheater opened in the summer of 2017 after two years of construction. While it is no longer a Childs' Restaurant, the spirit lives on in the restored fanciful terra-cotta facade, the new restaurant, bar and amphitheater, bringing jobs and new life to the long-neglected west end of Coney Island.

Martha McDonald







mon brick throughout the project including to reconstruct the threeto-five wythe walls that support the terra cotta," she adds.

When the 1960s stucco was removed from the south and east walls, numerous cracks and deteriorated steel framing for the roof rafters were revealed. After repairs, new stucco was applied to the south and east elevations, using a standard plaster system made by ConProCo. The color was selected to closely match the sand on the beach. The surface was then finished with a rough wood float to match the original design intent, Kaese explains.

Energy efficiency was another goal and it was a challenge because of the large ocean-facing windows. The architects used high-efficien-

### Public Spaces BEYER BLINDER BELLE, NEW YORK, NY



**PROJECT:** Main Fountain Garden, Longwood Gardens, Kennett Square, PA

ARCHITECT: Beyer Blinder Belle Architects & Planners, New York, NY; Richard W. Southwick, Partner in Charge; John Beyer, Partner; Lawrence Gutterman, Project Manager; Michael Wetstone, Project Designer; Miriam Kelly, Preservation Architect; Lissette Mendez-Boyer, Project Architect; and Lauren Cawse, Project Architect

#### **KEY SUPPLIERS**

**CONSTRUCTION MANAGER:** Bancroft Construction Co., Wilmington, DE

LANDSCAPE ARCHITECT: West 8, New York, NY

**FOUNTAIN DESIGNER:** Fluidity Design Consultants, Los Angeles, CA

STONE MASON: Joseph Rizzo & Sons Construction Co., New Castle, DE

STONE RESTORATION: Dan Lepore & Sons, Conshohocken, PA

**DECORATIVE STONE CARVING:** Quarra Stone Co., Madison, WI

**GROTTO STONE MASON:** Gary Odle, Hockessin, DE

**GROTTO STONE:** Avondale Brown/Mica, D'Amico Quarry, Avondale, PA

**STUCCO/PLASTER:** Paul's Plaster, New Castle, DE

**ORNAMENTAL METAL RESTORATION:**Materials Conservation Co., Philadelphia, PA

LANDSCAPE: B.R. Kreider & Son, Manheim, PA

**CUSTOM LIGHT FIXTURES:** Crenshaw Lighting, Floyd, VA

- 1: Longwood Garden's Main Fountain Garden features the restored 1930s pumphouse arch wall and loggia. All photos: John Bartelstone
- 2: The upper canal has boxwood plantings between the carved limestone scuppers.
- 3: Before and after images of the Italian limestone carved urn pedestals.

### Restoring a Garden

or generations, visitors to Longwood Gardens in Kennett Square, PA, have been dazzled by the dramatic dancing-water concerts of the Main Fountain Garden. They watch, spellbound, as the splashing sprays of the bewitching ballets, choreographed to music, colored lights and fireworks, perform their serene yet spectacular show.

The Main Fountain Garden, listed on the National Register of Historic Places in 1971, is such a celebrated and prominent feature of Longwood that little has changed since Pierre S. du Pont, the heir to E.I. du Pont Nemours & Co. and General Motors, completed it in 1936, five years after he opened his estate to the public.

Du Pont bought the property in 1906 primarily because he fell in love with its arboretum, and he spent the next half century until his death in 1954 transforming it into a country estate with display gardens. The

Main Fountain Garden was inspired by Europe's grand water gardens.

After 80 years, when it came time to restore the Main Fountain Garden's architectural elements and upgrade the infrastructure, Longwood wanted to make sure that its historic integrity remained intact and in sync with du Pont's personal vision.

Beyer Blinder Belle Architects & Planners, based in New York City, was commissioned to create and execute the five-year, \$90-million rehabilitation that was completed in May 2017.

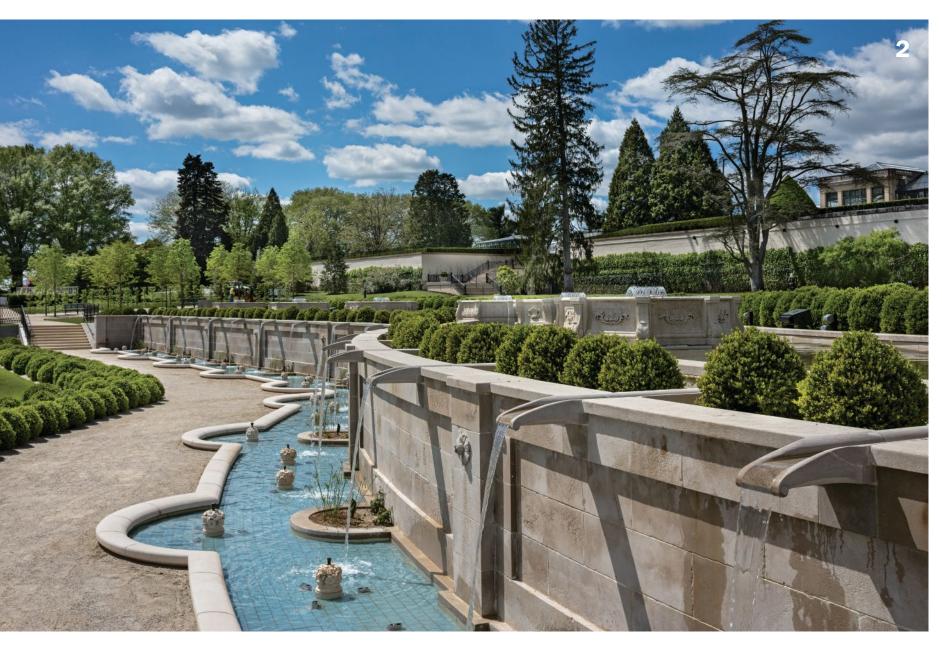
"This was a unique project for us because it's not a conventional building project and presented numerous new challenges," says Beyer Blinder Belle Partner Richard W. Southwick, FAIA, LEED AP. "We have restored other fountains, including the ones at the New York Botanical Garden and the promenade at Lincoln Center, but none as magnificent as the Main Fountain Garden. The Longwood fountains are playful, magical and mysterious and are meant to delight guests."

The Main Fountain Garden, which features an Italian Renaissance-style arched loggia, was in such bad shape that there were significant safety issues. In fact, a chainlink fence had been erected in front of the loggia and pumphouse wall to protect the public from the unstable masonry and deteriorated decorative features

Some 30,000 gallons of water, enough to fill two large swimming pools, were leaking through too-old pipes every day, algae and moss were damaging the architectural elements, the central pump and control systems were outdated, and the fountain and lighting equipment were so antiquated that spare parts were no longer being manufactured.

"We had two major objectives," says Southwick, director of historic preservation for Beyer Blinder Belle and partner in charge of the





Longwood Gardens project. "First, to restore the garden to bring back its original splendor, and second, to enhance the garden with new design features, planting and fountain displays, including improved circulation providing full ADA accessibility. All this was done with the premise that the new improvements appear as if they had always been in place."

Two other firms, West 8 Urban Design & Landscape Architecture of New York City, and Fluidity Design Consultants of Los Angeles, fountain designers, were Beyer Blinder Belle's major design collaborators.

In addition, Southwick and his team wanted to create efficient maintenance, energy and water systems and make the fountain garden more user-friendly for staff and guests.

"Longwood was creating more robust programming and wanted to extend its hours so guests could walk through the garden later at night, therefore, site lighting was designed to provide a dramatic and safe experience after dark," he says. "There was also the desire to extend the seasons into the shoulder seasons, earlier in the spring and later in the fall. The fountain systems were designed to facilitate this."

The project was nearly as intricately orchestrated as the fountains' theatrics: landscaping, lighting, electrical, water, sound, soil, masonry and stone restoration teams worked in unison. Bancroft Construction Co. of Wilmington, DE, the construction manager, coordinated the work on site.

One of the more massive tasks was the restoration of the old stonework. Eighty years of harsh winters and the constant flow of fountain water had taken their toll. The stained, eroded and cracked stones of the garden walls and decorative carvings were generally in poor condition. Many had been inappropriately repaired and were missing portions.

Southwick and his team performed a hands-on survey of each of the 5,373 units of stone and



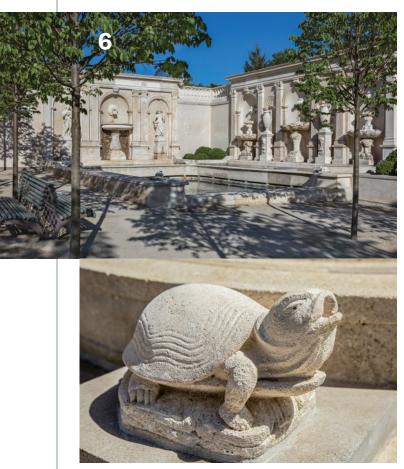


4: The new campanile on the west bridge's monumental stair conceals an ADA-compliant elevator.

5: The restored loggia has two new flanking arch openings leading to a hidden grotto within. A chain-link fence, above, had been installed as a safety measure before the rehabilitation.









6: The classically-inspired turtle pool is at the east end of the pumphouse wall. The new limestone turtle fountain spouts, below, are replicas. Only one of the four originals survived; it was scanned in 3D, and a template was used to carve the duplicates.

7: The upper canal bridge, complete with restored railing and receiving pool, was restored during the \$90-million project.

8: In the new stone-lined grotto, a circular rain curtain is illuminated by natural light from an oculus.



developed a piece-by-piece restoration approach. The stones were dismantled, cleaned and repaired by the masons at Dan Lepore & Sons in Conshohocken, PA.

When the work was done, it was reassembled like a giant 3D jigsaw puzzle and each stone was reset in its 1936 location.

The flat panels, of Indiana limestone, were relatively easy to restore. The ornate, decorative pieces that were carved from an Italian limestone from the Bianco Avorio Quarry in Vicenza were more challenging. A softer, more complex stone, it didn't weather as well under the severe conditions to which it was subjected.

Modern technology was used to replicate the 75 Italian limestone bouquet fountains at the upper and lower canals. Each unique bouquet was machine-cut and hand-tooled at Quarra Stone Co. in Madison, WI.

Updating the Main Fountain Garden's infrastructure also was an immense operation. The original pump room/electrical room was replaced with two new underground rooms connected via a system of subterranean service tunnels. The tunnels, constructed of 8-ton pre-cast concrete sections 10 feet high, 15 feet wide and 8 feet long, run 1,400 linear feet under the display fountains for convenient maintenance.

"Beyer Blinder Belle used a BIM modeling system to coordinate the numerous systems needed to fit into the tunnels," Southwick says. "The 2-ft.-diameter water return pipes, for instance, had to fit in with all the electrical, propane and control lines."

Three reservoirs that hold 42,600 gallons, 169,000 gallons and 108,000 gallons retain and treat the water at night with bromide to retard algae growth. They also prevent freezing, allowing the garden to continue to put on shows from the first blooms of spring through late autumn.

The old pumphouse, which was behind the loggia, was preserved and turned into a museum that showcases the original equipment. Its exhibits highlight the garden's history and technology.

"We included numerous places to sit along the pathways and in the east wall arches," Southwick says.

The Pumphouse Plaza with outdoor café service was added, and two new stairways and a campanileconcealed elevator allow access to the upper level of the loggia, where people can experience the garden and fountain shows in a new way.

"The central core of the Main Fountain Garden was reconstructed to its historic 1936 appearance," Southwick says, adding that the new elements are so carefully integrated that "at first glance, the garden looks exactly as it did when du Pont completed it in the 1930s."

Behind the loggia, where excavations were undertaken for the 40,000-sq.ft. service building, the team sited the most prominent new feature—a grotto whose mica-flecked, rubble-stone walls turn it into a sparkling, fairytale place.

"The grotto is an inspirational space popular in the gardens of Renaissance Europe that du Pont so admired," Southwick says. "It's also a metaphor: It features a circular rain curtain that returns the water used for the fountains back to earth, so everything comes full circle."

When the Main Fountain Garden reopened in May 2017 after a two-year closure, visitors were enthralled. One declared it was better than Disney World.

Another longtime visitor, after touring Beyer Blinder Belle's grotto, commented, "I can't believe I've never seen this before."

It was, Southwick says, the ultimate compliment.

- Nancy A. Ruhling

- 9: A detail of one of the 75 carved bouquets; each contains vertical fountain nozzles.
- 10: The new 20,000-sq.ft. main pump room is under the major rectangular basin.
- 11: The original 1930s mechanical room was transformed into a museum that features the original in-situ pumps and electrical equipment.
- 12: The Main Fountain Garden in all its glory during an evening show after the May 2017 reopening.









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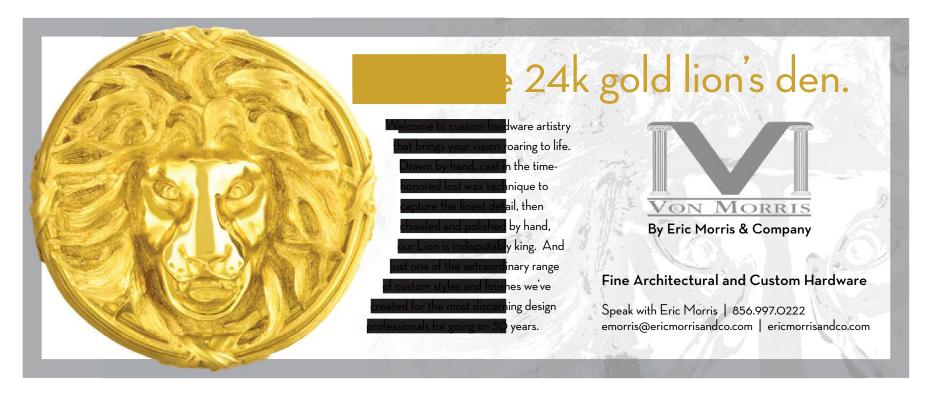


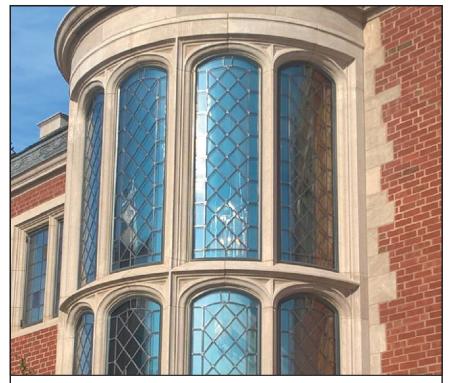
**Indow** fabricated the interior storm windows to fit each individual window of this historic school building.

#### Indov

#### 503-284-2260; Fax: 503-284-2261 www.indowwindows.com Portland, OR 97227

Manufacturer of handcrafted acrylic interior storms: edged in Compression Tube that press into place without a track or magnetic system to preserve historic windows while creating comfort, energy efficiency, savings & noise reduction; laser-measured for out-of-square openings; for residential & commercial projects.





Crittall, originator of the iconic steel window in 1849, is a proud Palladio Project Supplier



Tel: +44(0)1376 530800 www.crittall-windows.com

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Glass interior storm windows from Innerglass were used on this historic building.

#### **Innerglass Window Systems**

800-743-6207: Fax: 860-651-4789 www.stormwindows.com Simsbury, CT 06070

Manufacturer of custom glass interior storm windows for energy conservation & soundpro ofing: out performs almost any replacement; automatically conforms to the opening, compensating for out-ofsquare conditions; no sub-frame needed; all glazing options available; easy do-it-yourself installation. Call for more information.



These custom windows were fabricated by Jim Illingworth Millwork.

#### Jim Illingworth Millwork, LLC 315-232-3433

www.jimillingworthmillwork.com Adams, NY 13605

Manufacturer of custom wood windows, doors & moldings: for homes & historic buildings; matches any existing wood windows, doors, moldings; custom millwork

Call for more information.

#### **Marvin Windows and Doors**

888-537-7828; Fax: 651-452-3074 www.marvin.com

Warroad, MN 56763

Manufacturer of wood windows & doors: clad & clad-wood; special shapes; custom sizes & more than 11,000 standard sizes; historical replicas; interior & exterior storm windows.



Parrett fabricated these historically styled windows for the Saenger Theatre in New Orleans.

#### **Parrett Windows & Doors**

800-541-9527; Fax: 877-238-2452 www.parrettwindows.com Dorchester, WI 54425

Manufacturer of custom, quality wood & aluminum-clad windows & doors: vast array of options, numerous wood species & complete finishing capabilities; historical replications; screen doors, casings & moldings.

Call for more information.

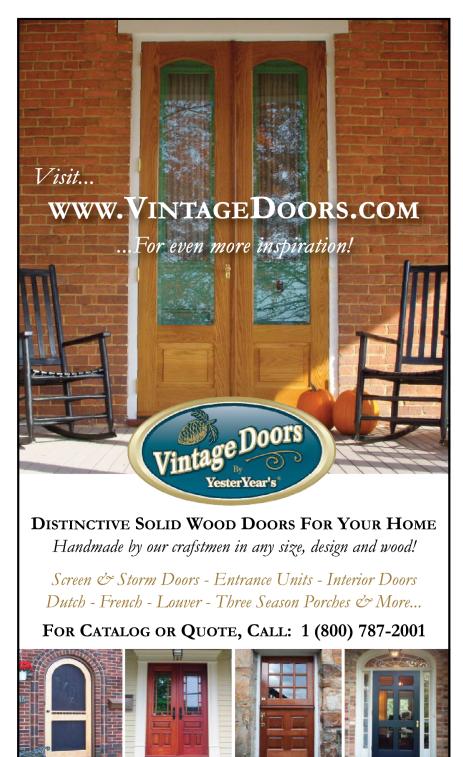
#### **Phelps Company**

603-336-6213; Fax: 603-336-6085 www.phelpscompany.com Hinsdale, NH 03451

Manufacturer of traditional hot-forged solid-brass window hardware: sash pulleys, weights, chains, lifts & locks; stop-bead adjusters, spring bolts, window ventilation locks, push-out casement hardware, storm/ screen-door latch sets & more.









This casement adjuster from **Phelps Company** is available in oil-rubbed bronze finish.

#### **Vintage Hardware & Lighting**

360-379-9030; Fax: 360-379-9029 www.vintagehardware.com Port Townsend, WA 98368

Supplier of door hardware, window hardware: window locks & sash lifts; drapery hardware; bathroom accessories; reproduction lighting; weathervanes.

Call for more information.



**Rohlf's Stained & Leaded Glass Studio** created this custom Victorian leaded glass window.



Spanish cedar Dutch doors are one of the many styles available from **Vintage Doors**.

#### Von Morris by Eric Morris & Company

856-997-0222; Fax: 856-294-5116 www.ericmorrisandco.com Pennsauken, NJ 08109

Fabricator of architectural hardware: knobs, levers, locks, hinges & cabinet hardware; 30 different finishes.





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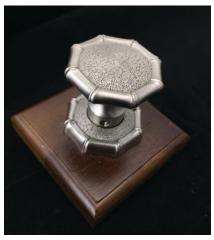


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Vintage Hardware carries a complete line of window hardware including window pulleys, sash stays and transom hardware.



This bamboo knob is available from Von Morris.

#### Wiemann Metalcraft 918-592-1700; Fax: 918-592-2385

www.wmcraft.com

Tulsa, OK 74107

Designer, fabricator, finisher & installer of fine quality custom ornamental metalwork: railings, fences, gates, custom, hot-rolled steel doors & windows, lighting, grilles, bronze & aluminum entry doors; all cast- & wrought-metal alloys, finishes & architectural styles: since 1940.

Call for more information.



Wiemann Metalcraft fabricated these bronze Art Deco door panels.

#### **Zepsa Industries, Inc.**

704-583-9220; Fax: 704-583-9674

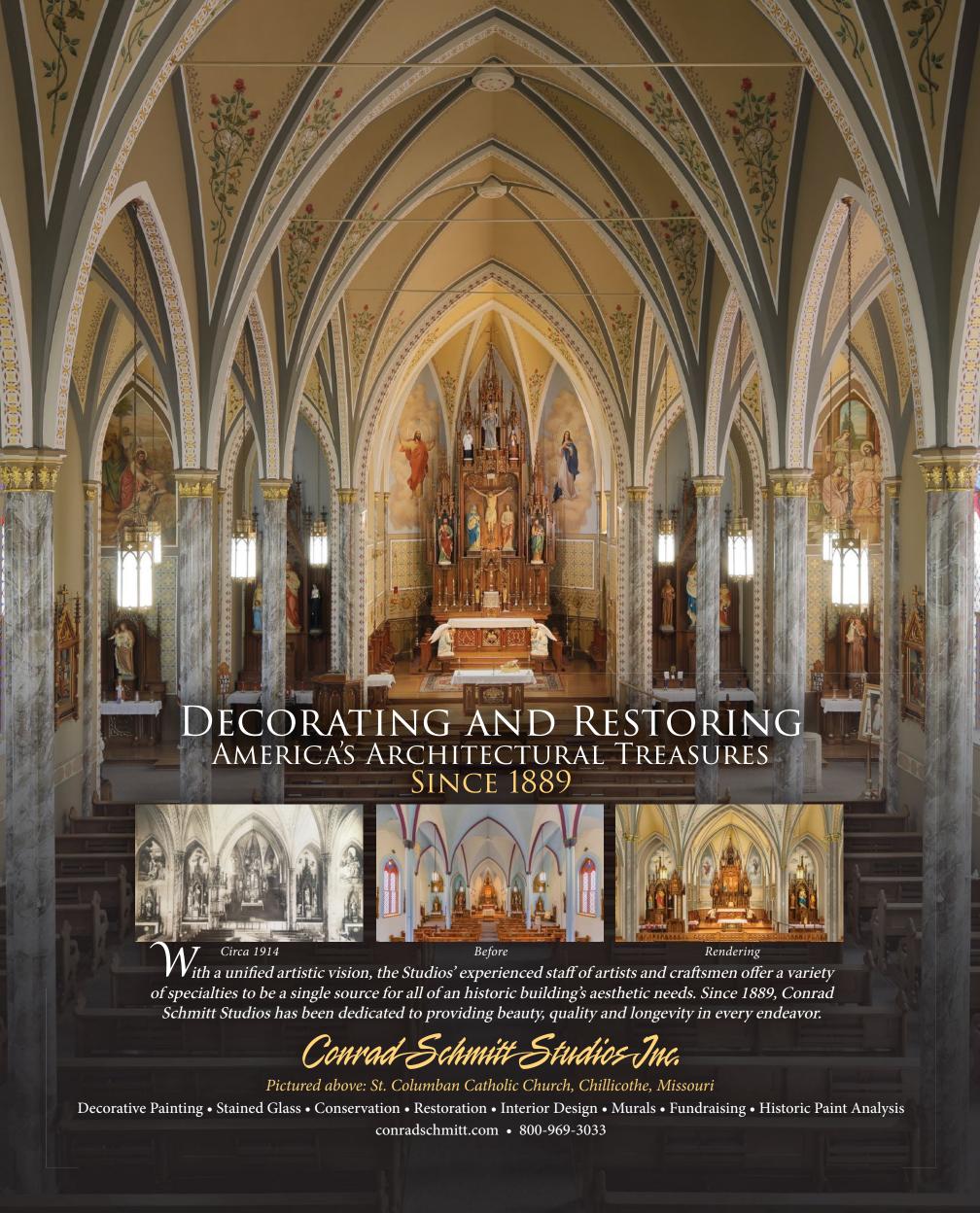
www.zepsa.com

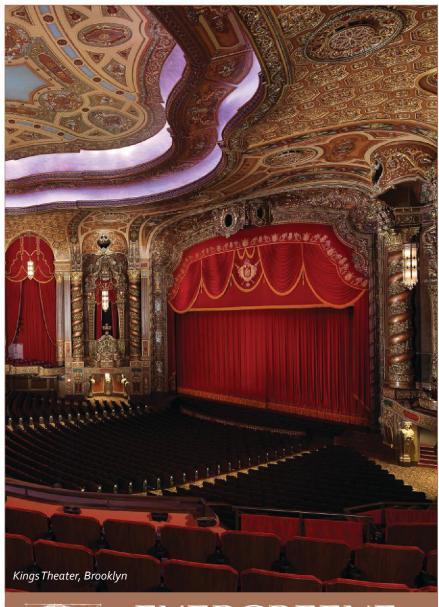
Charlotte, NC 28273

Supplier of architectural woodwork: stairs, mantels, paneling, wine cellars, furniture, doors & more.



Zepsa Industries designed and built these historically styled wood doors.







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**Chadsworth Columns'** Authentic Replication Roman Doric columns with lonic fluted shafts, measuring 7 ft. 10 in. x 10 in., are made from finger-jointed wood.

#### **Chadsworth Columns**

910-763-7600; Fax: 910-763-3191

www.columns.com Wilmington, NC 28401

Manufacturer of authentically correct architectural columns: complete line of columns, piers, pilasters & posts for interior & exterior use; variety of sizes, styles & materials, including wood; more than 20 years.

Call for more information.



**Conrad Schmitt** used silver-toned Palladium leaf in the restoration of the dining room at the French Lick Springs Hotel, French Lick, IN.

#### **Conrad Schmitt Studios, Inc.**

800-969-3033; Fax: 262-786-9036 www.conradschmitt.com

New Berlin, WI 53151

Creator, conservator & restorer of decorative painting: stained & art glass; ornamental plaster work & ceilings; gilding; murals, mosaics & statuary; for public & religious buildings; since 1889.

Call for more information.



**EverGreene** restored and repaired the historic plaster in the Kings Theatre in Brooklyn, NY.

### **EverGreene Architectural Arts, Inc.**

212-244-2800; Fax: 212-244-6204

www.evergreene.com

Brooklyn, NY 11232

Decorative-arts studio: murals, decorative painting, gilding, plaster, wood, metal, stone & mosaics; new design, conservation & restoration; ecclesiastical, institutional, public & commercial projects; offices in NYC & Chicago.

Call for more information.

### Felber Ornamental Plastering Corp.

800-392-6896; Fax: 610-275-6636 www.felber.net

Parkesburg, PA 19365

Creators & manufacturers of interior & exterior molded ornament: capitals, cornices, friezes, niches, keystones, rosettes, coffers, domes & medallions; custom mantels; plaster, gypsum & GRG; GFRC, signage, plaques, sculptors, model makers & casters on staff; stock & custom.



**Canning Studios** restored the murals and decorative painting and also cleaned and re-pointed the marble at the Pennsylvania State Capitol House Chamber.

## John Canning Conservation & Painting Studios

203-272-9868; Fax: 203-272-9879 www.JohnCanningCo.com Cheshire, CT 06410

Restorer, conserver & designer of decorative finishes, ornamental plaster & wood: historic paint analysis; plaster consolidation & stabilization; decorative paint, murals, interior & exterior gilding, wood graining, metal & stone cleaning.



**Niko Contracting** replicated and installed the pressed-metal ceiling panels and cornice for the South Carolina State House in Columbia, SC.

#### **NIKO Contracting Co., Inc.**

412-687-1517; Fax: 412-687-7969 www.nikocontracting.com Pittsburgh, PA 15213

Custom fabricator & contractor of sheet metal & roofing: slate, tile & other roofing; storefronts, cornices, cupolas, domes, steeples, snow guards

& leader heads; copper, lead-coated copper, zinc &

stainless steel; metal ceilings.

Call for more information.



Pacifc Register offers a selection of historically styled laser-cut wood panels for ceilings and floors.

#### **Pacific Register Company**

805-487-7500; No fax www.pacificregisterco.com

Oxnard, CA 93033

Manufacturer of registers: metal, wood & stone; many historic styles; accessories.

Call for more information.

#### Rambusch Decorating Co.

201-333-2525; Fax: 201-433-3355 www.rambusch.com Jersey City, NJ 07304

Designer & fabricator of public & ecclesiastical art & stained glass: altars, ambos, arks, crosses & more; decorative painting; murals & mosaics; lighting; commercial environments; since 1898.

Call for more information.



The Memorial to the NYC firefighters who lost their lives on September 11, 2001 was executed in the style of Classical Realism by **Rambusch**. The engraved names of the fallen encourage visitors to take rubbings. Photo: Roman Demko

# Mantels, Fireplaces & Chimneys



**A-Cast** provides fireplace boxes such as the one shown.

#### A-Cast LLC

717-847-6450; Fax: 844-326-8385 www.acasthearth.com Narvon, PA 17555

Supplier of precast fireboxes: for interior & exterior fireplaces; classic designs available in diverse historically accurate patterns & colors; developed by masons for masons; specified by architects & interior designers nationally; made in US.



The Wilson mantel from **Forshaw**, shown here in Botticino marble, features clean-line, rounded-leg columns and double step-back legs.

#### Forshaw of St. Louis, Inc.

314-874-4316; Fax: 314-874-4339 www.forshawmantels.com St. Louis, MO 63044

Manufacturer of handcrafted mantels & overmantels: pine, oak, poplar, cherry & other solid hardwoods; unfinished & ready for paint or stain; precast-stone mantels with 33-, 36-, 42- & 43-in. openings; custom & ground shipped.



This chimney piece from **Haddonstone** incorporates legs in the form of lonic columns supporting a mantel with swags, medallions and a dentilled cornice.

#### Haddonstone (USA), Ltd. 719-948-4554; Fax: 719-948-4285 www.haddonstone.com

Pueblo. CO 81001

Manufacturer of classical & contemporary cast limestone: columns, balustrades, benches, planters, pavers, fountains, gazebos, interior ornament, mantels, statuary & more; 500+ designs; custom designs.

Call for more information.

#### **Historical Arts & Casting, Inc.**

800-225-1414; Fax: 801-280-2493

www.historicalarts.com

West Jordan, UT 84081

Designer & custom fabricator of ornamental metalwork: doors, windows, hardware, stairs, balustrades, registers, fences, lighting, gutters, columns, weathervanes, snow guards, cupolas, planters, fireplace tools & more; iron, bronze, aluminum & steel; restoration services.

Call for more information.



Steven Handelman Studios fabricated this spanish log basket

#### **Steven Handelman Studios**

805-962-5119; Fax: 805-966-9529 www.stevenhandelmanstudios.com Santa Barbara, CA 93103

Manufacturer of hand-forged traditional lighting, grilles & fireplace accessories: many types & styles of lighting & grilles; fireplace screens, grates & inserts; historic reproduction & restoration

Call for more information.



**Zepsa Industries** designed and built this mantel and overmantel.

#### Zepsa Industries, Inc.

704-583-9220; Fax: 704-583-9674

www.zepsa.com Charlotte, NC 28273

Supplier of architectural woodwork: stairs, mantels, paneling, wine cellars, furniture, doors & more.



# Lighting & Electrical



This six-in. Berkeley 4-light-plus-center chandelier is available from Arroyo Craftsman in a variety

#### **Arroyo Craftsman**

888-227-7696; Fax: 626-960-9521 www.arroyo-craftsman.com Baldwin Park, CA 91706

Manufacturer of interior & exterior lighting fixtures: solid-brass post- & column-mount, wall-mount & hanging garden lights; brass chandeliers, sconces, table lamps & flush ceiling mounts; Arts & Crafts style; stock & custom.

Call for more information.



This natural-copper three-light lantern, model #SM LT 6 Stirling, from Authentic Designs, measures 19½ in. wide x 13½ in. tall x 7 in. in dia

#### **Authentic Designs**

800-844-9416; Fax: 802-394-2422 www.authenticdesigns.com West Rupert, VT 05776

Manufacturer of historical lighting fixtures & specialty metal products: chandeliers, lanterns, sconces & table lamps crafted in brass, copper, terne metal & Vermont maple; Early American & Colonial; CUL/UL listed for wet & damp locations; library binder \$30.

Call for more information.

#### **Ball & Ball Lighting**

610-363-7330; Fax: 610-363-7639 www.ballandball.com Exton, PA 19341

Fabricator of historical lighting: chandeliers, sconces, pendants, lanterns & table lamps; Early American & Turn of the Century styles; antique & salvaged originals, new designs, custom work &reproductions; stair handrails; restoration services.



Crenshaw Lighting provided the sconces for the Minnesota state capital.

#### **Crenshaw Lighting** 540-745-3900; Fax: 540-745-3911

www.crenshawlighting.com Floyd, VA 24091

Designer & manufacturer of fine lighting since 1957: custom designs; historic restoration & replication; contemporary; residential; government; university; worship; theatre; museum; interior & exterior; handmade in the US.

Call for more information.

#### **Deep Landing Workshop**

877-778-4042; Fax: 410-778-4070 www.deeplandingworkshop.com Chestertown, MD 21620

Manufacturer of custom lighting fixtures: chandeliers, sconces, pendants & lanterns; new designs, historic reproductions & custom work; handcrafted in wood, tin, brass or copper; glass, mica or alabaster shades.

Call for more information.



The overall height of this two-light castbronze lantern from **Deep** Landing Workshop is 23 in. and the body is 17 ¾-in. tall; it projects 13 ½ in. from the wall.



Grand Light provided the chandeliers, wall sconces and torcheires for the Hudson County Courthouse in Jersey City, NJ.

#### **Grand Light**

800-922-1469; Fax: 203-828-6307 www.grandlight.com Seymour, CT 06483

Restorer of historic lighting fixtures & manufacturer of custom lighting fixtures: metal fabrication, glass fabrication, metal finishing, polishing, painting, welding, abrasive blasting; historical replication &

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#### Heritage Metalworks

handcrafted this
"Diamonds are a
Girl's Best Friend"
lantern exclusively
for Mallett using
paktong, a rare
non-tarnishing
metal, involving 102
different shapes and
rapid prototyping to
sculpt the lantern in
three dimensions. ©
Mallett Antiques.

#### **Heritage Metalworks**

610-518-3999; Fax: 610-518-7264 www.heritage-metalworks.com Downingtown, PA 19335

Atelier of skilled blacksmiths & craftsmen: exclusively to trade; lighting, hardware, gates & railings; custom & signature lines available in iron, brass, bronze, copper, nickel, zinc & stainless steel.

Call for more information.

#### Herwig Lighting 800-643-9523; Fax: 479-968-6422

www.herwig.com Russellville, AR 72811

Designer & manufacturer of handcrafted cast metalwork: period-design lanterns, street lighting, posts, custom outdoor lighting, street clocks, benches, bollards, custom plaques, signs & more; aluminum & bronze; since 1908.



This 18-ft. bronze, nickel and goldplated chandelier was restored by **Historical Arts** & Casting.



#### **Historical Arts & Casting, Inc.**

800-225-1414; Fax: 801-280-2493 www.historicalarts.com West Jordan, UT 84081

Designer & custom fabricator of ornamental metalwork: doors, windows, hardware, stairs, balustrades, registers, fences, lighting, gutters, columns, weathervanes, snow guards, cupolas, planters, fireplace tools & more; iron, bronze, aluminum & steel; restoration services.

Call for more information.



House of Antique Hardware manufactures a complete line of premium push button light switches and dimmers modeled on antique originals, with larger buttons and luminous mother-of-pearl inlay.

#### **House of Antique Hardware**

888-223-2545; Fax: 503-233-1312 www.houseofantiquehardware.com Portland, OR 97232

Manufacturer & supplier of vintage reproduction door, window, shutter, cabinet & furniture hardware & accessories: Federal, Victorian, Colonial Revival, Craftsman & Deco styles; lighting fixtures, push-button switches & plates; bathroom accessories; registers & grilles.

Call for more information.



This forged brass and bronze lantern from **Lantern Masters** combines age-old forging techniques with 21st-century technology.

#### **Lantern Masters, Inc.**

818-706-1990; Fax: 818-706-1988 www.lanternmasters.com Westlake Village, CA 91362

Custom designer & manufacturer of lighting: interior chandeliers, pendants, ceiling flushes & sconces & exterior lanterns including wall, flush wall, pendant, post & pilaster; many architectural periods; historical reproductions.

Call for more information.



Rambusch created Art Deco fixtures for the Fred F. French Building in New York City.

#### **Rambusch Lighting Co.**

201-333-2525; Fax: 201-860-9999 www.rambusch.com Jersey City, NJ 07304

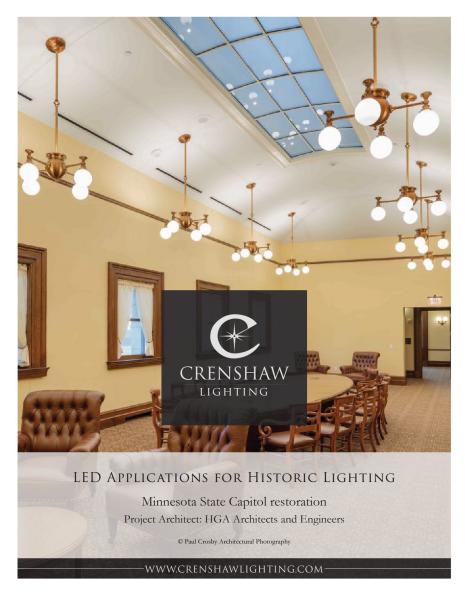
Designer & fabricator of custom & engineered lighting for 100 years: for churches & public spaces; conservation & replication of lighting fixtures. Call for more information.

#### St. Louis Antique Lighting Co.

314-863-1414; Fax: 314-863-6702

www.slalco.com Saint Louis, MO 63130

Manufacturer & supplier of architectural lighting: all styles; historical reproductions & custom lighting; restoration services; commercial & ecclesiastical projects.







**St. Louis Antique Lighting Co.** supplied several of the crystal chandeliers for the Drury Inn & Suites in New Orleans, LA.



This flush mount fixture is from the Princeton collection by **Steven Handelman Studios** 

#### **Steven Handelman Studios**

805-962-5119; Fax: 805-966-9529

#### www.stevenhandelmanstudios.com Santa Barbara, CA 93103

Manufacturer of hand-forged traditional lighting, grilles & fireplace accessories: many types & styles of lighting & grilles; fireplace screens, grates & inserts; historic reproduction & restoration services.

Call for more information.



Vintage Hardware & Lighting created this exterior fixture.

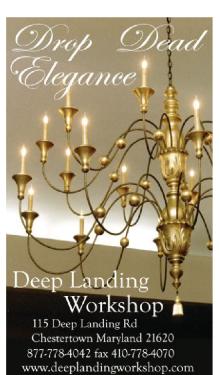
### Vintage Hardware & Lighting 360-379-9030; Fax: 360-379-9029

www.vintagehardware.com

#### Port Townsend, WA 98368

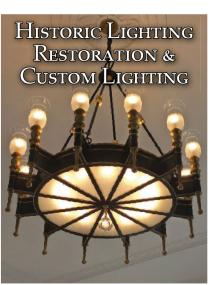
Supplier of door hardware, window hardware: window locks & sash lifts; drapery hardware; bathroom accessories; reproduction lighting; weathervanes.

Call for more information.





Wiemann created this Forged Bronze Wall Sconce with gas lamping in a patina and wax finish for Curtis and Windham Architects.



#### GRAND LIGHT

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Seymour, CT

#### Wiemann Metalcraft 918-592-1700; Fax: 918-592-2385

918-592-1700; Fax: 918-592 www.wmcraft.com Tulsa, OK 74107

Designer, fabricator, finisher & installer of fine quality custom ornamental metalwork: railings, fences, gates, custom, hot-rolled steel doors & windows, lighting, grilles, bronze & aluminum entry doors; all cast- & wrought-metal alloys, finishes & architectural styles; since 1940.









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Gavin Historical Bricks supplied its reclaimed European Blend Cobblestone for this driveway in Montecito, CA.

#### **Gavin Historical Bricks, Inc.**

319-354-5251; Fax: 319-688-3086 www.historicalbricks.com lowa City, IA 52245

Supplier of antique paving & building materials: specialists in new construction with an Old World look as well as historic restoration projects; pavers, cobblestones, clinker brick & more.

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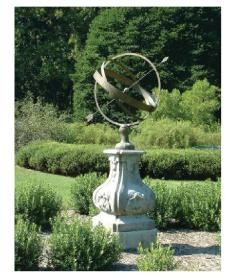
This cast-stone shell wall fountain is one of many styles available from **Haddonstone**.

#### Haddonstone (USA), Ltd. 719-948-4554; Fax: 719-948-4285 www.haddonstone.com

Pueblo, CO 81001

Manufacturer of classical & contemporary cast limestone: columns, balustrades, benches, planters, pavers, fountains, gazebos, interior ornament, mantels, statuary & more; 500+ designs; custom designs.

Call for more information.



This Iconic reproduction sundial, from **Heritage Metalworks**, is handmade with cast bronze and architectural brass and displayed as both decorative and functional in the Winterthur Museum's Sundial Garden.

#### Heritage Metalworks 610-518-3999; Fax: 610-518-7264

610-518-3999; Fax: 610-518-7264 www.heritage-metalworks.com Downingtown, PA 19335

Atelier of skilled blacksmiths & craftsmen: exclusively to trade; lighting, hardware, gates & railings; custom & signature lines available in iron, brass, bronze, copper, nickel, zinc & stainless steel.

Call for more information.



The Transit Plaza Fountain in Kansas City, MO, was fabricated by **Historical Arts & Casting**.

#### **Historical Arts & Casting, Inc.**

800-225-1414; Fax: 801-280-2493 www.historicalarts.com West Jordan, UT 84081

Designer & custom fabricator of ornamental metalwork: doors, windows, hardware, stairs, balustrades, registers, fences, lighting, gutters, columns, weathervanes, snow guards, cupolas, planters, fireplace tools & more; iron, bronze, aluminum & steel: restoration services



Custom gates made with materials supplied by King Architectural Metals can enhance appearance while also providing security.

#### King Architectural Metals 800-542-2379; Fax: 800-948-5558 www.kingmetals.com Dallas, TX 75228

Wholesale supplier of ornamental & architectural metal components: staircases, handrails, gates, fences, furniture, mailboxes, lampposts, finials & fireplace screens; wrought iron & aluminum.

Call for more information.

### R. Alden Marshall & Associates 717-805-3114

#### www.raldenmarshall.com Galveston, TX 77551

Material science laboratory & preservation studio for the conservation of art & architecture: monuments, sculptures, paintings & murals; much more; projects include national historic sites as well as ecclesiastical commissions.

Call for more information.



**R. Alden Marshall & Assoc.** restored the Texas Heroes monument in Galveston, TX.



Wiemann Metalcraft's custom-made aluminum belvedere measures 12½ ft. in dia. and has a bronze painted finish.

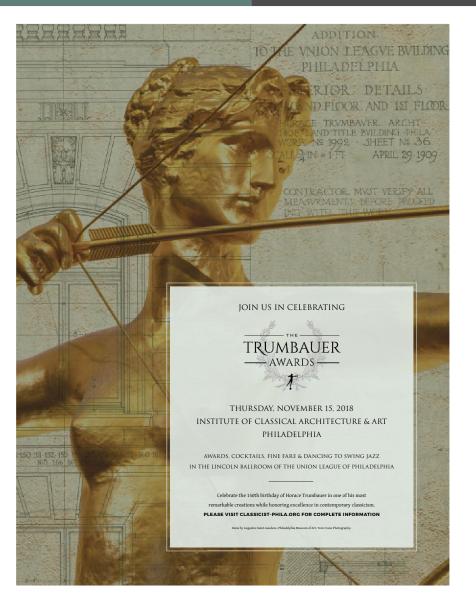
#### **Wiemann Metalcraft**

918-592-1700; Fax: 918-592-2385 www.wmcraft.com

Tulsa, OK 74107

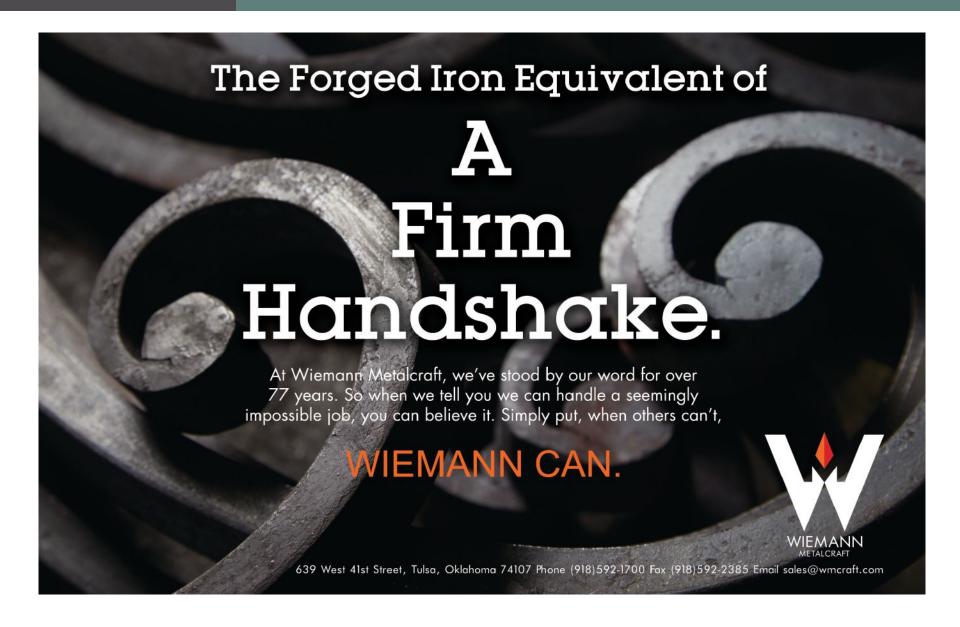
Designer, fabricator, finisher & installer of fine quality custom ornamental metalwork: railings, fences, gates, custom, hot-rolled steel doors & windows, lighting, grilles, bronze & aluminum entry doors; all cast- & wrought-metal alloys, finishes & architectural styles; since 1940.

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**Architecture Grille** offers a selection of grilles designed to enhance different environments.

#### **Architectural Grille**

800-387-6267; Fax: 718-832-1390 www.archgrille.com Brooklyn, NY 11215

Manufacturer of custom grilles: perforated & linear bar grilles; radiator covers; aluminum, brass, steel & stainless steel; variety of finishes; stock sizes; water-iet & laser cutting.

Call for more information.



**Artistry in Architectural Grilles** designed and fabricated these historically styled grilles.

## Artistry in Architectural Grilles 516-488-0628; Fax: 516-488-0728

Full-service metal fabricators: custom manufac-

www.aagrilles.com New Hyde Park, NY 11040

turer of linear bar & perforated grilles, decorative metal panels, architectural screens, HVAC grilles, radiator grilles, enclosures, registers, grilles for millwork inserts, laser cut metal panels & the Authentic Patented\* Plaster J Bead® frame; aluminum, brass, bronze, steel, & stainless steel

with variety of metallic & applied finishes; patent #

Call for more information.

#### **Bill's Custom Metal Fabrications**

516-333-3562; Fax: Same as phone www.ironcrafters.com Westbury, NY 11590

Manufacturer of ornamental metalwork: railings, gates, furniture, fireplace doors, mantels, hardware & candelabras; handcrafted & hand forged.



Metal grilles are the specialty of **Coco Architectural Grilles.** 

### CoCo Architectural Grilles & Metalcraft

631-482-9449; Fax: 631-482-9450 www.cocometalcraft.com Farmingdale, NY 11735

Fabricator of grilles & architectural metal products: stainless steel, brass, aluminum & steel; linear bar grilles, perforated; custom work.

#### **Compass Ironworks**

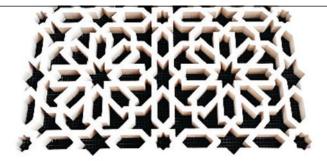
717-442-4544; Fax: 717-442-1948 www.ironworkclassics.com Gap, PA 17527

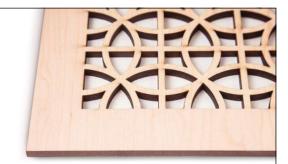
Fabricator of wrought-iron metalwork: gates, fences, railings, décor; family owned; hand crafted; historical styles: recycled content.



Heritage Metalworks created this custom hand-forged staircase railing that wraps around an 8-ft. Murano glass chandelier. Photo: Don Pearse Photography







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# Coming in the August 2018 issue:

Everything you need to know about wood doors for historic buildings by
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**Historical Arts & Casting, Inc.** fabricated this traditionally styled, cast-bronze railing.



Hot-stamped leaves from **King Architectural Metals** can be used in a variety of applications;
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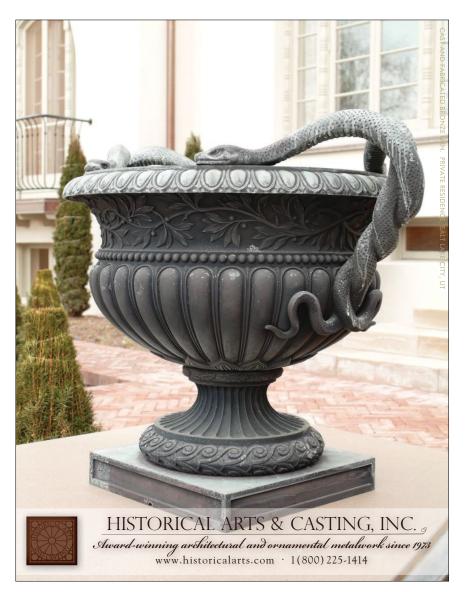
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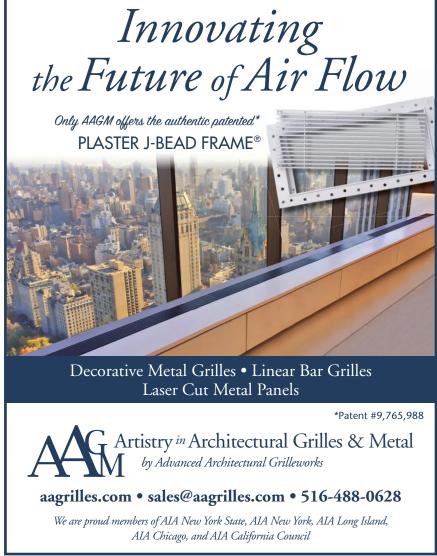
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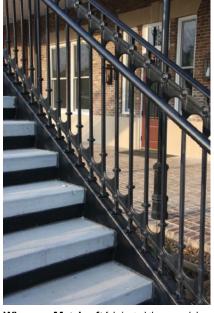
This Mediterranean-style iron grille was created by **Steven Handelman Studios**.

#### Steven Handelman Studios 805-962-5119; Fax: 805-966-9529

www.stevenhandelmanstudios.com Santa Barbara, CA 93103

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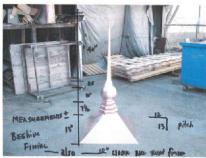
This Royal Copper cupola from **B&B Sheetmetal** is made of high-grade materials.

#### **B&B Sheetmetal**

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**Historical Arts & Casting** supplied this 13 ft. 10½-in. finial.

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Preservation Products. Inc.



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Custom finials from **W.F. Norman** were incorporated into the restoration design of this historic building in Toronto.

#### W.F. Norman Corp.

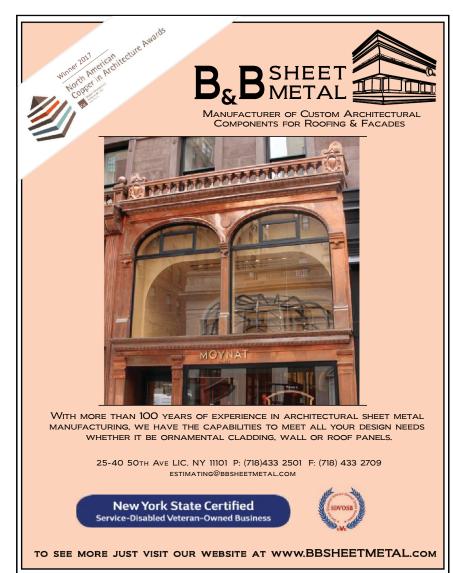
800-641-4038; Fax: 417-667-2708

www.wfnorman.com

Nevada, MO 64772

Manufacturer of sheet-metal ornament: hundreds of stock designs; cornices, moldings, brackets, pressed-metal ceilings, roofing, siding, finials & more; zinc, copper & lead-coated copper; duplication from samples or drawings.

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**Gavin Historical Bricks** supplied its reclaimed Brewery Bricks for this restaurant in Omaha, NE.

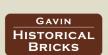
#### **Gavin Historical Bricks, Inc.**

319-354-5251; Fax: 319-688-3086 www.historicalbricks.com

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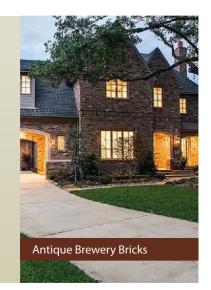


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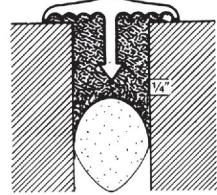
Architectural components from **Haddonstone**, including window surrounds, quoins and cladding, were used on this façade.

#### Haddonstone (USA), Ltd.

719-948-4554; Fax: 719-948-4285 www.haddonstone.com Pueblo. CO 81001

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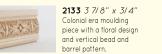


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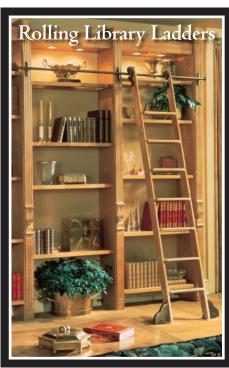


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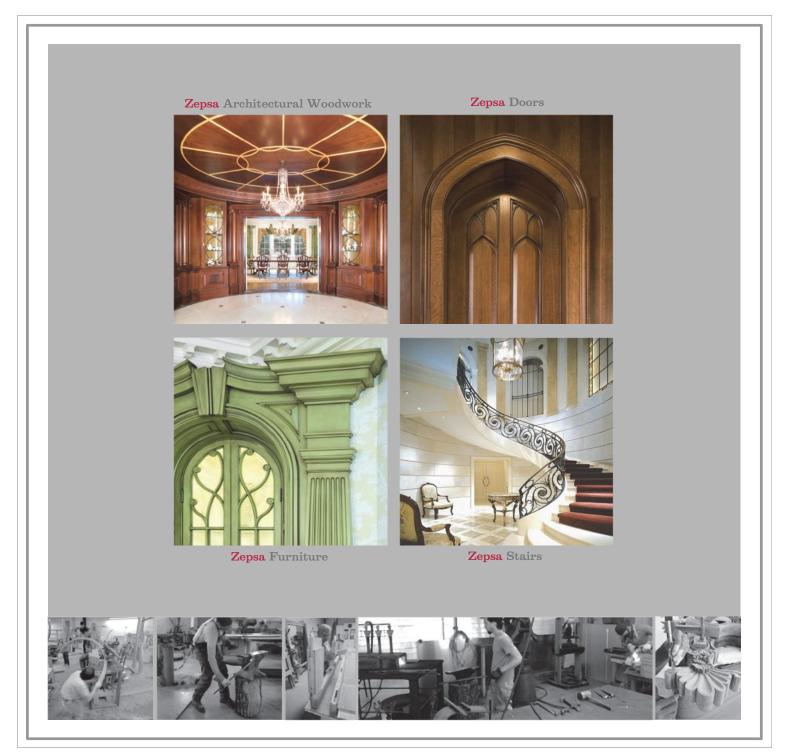
Jim Illingworth Millwork created this custommilled red-oak casing door trim.

#### Jim Illingworth Millwork, LLC 315-232-3433

www.jimillingworthmillwork.com Adams, NY 13605

Manufacturer of custom wood windows, doors & custom-milled red-oak door trim molding.





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This monumental stair was designed and built by **Zepsa Industries**.

# **Religious Specialties**



**Bovard Studio** re-leaded all of the stained-glass windows of the First Presbyterian Church in Davenport. IA.

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Conrad Schmitt Studios restored the tornado damaged St. Mary Basilica, Natchez, MI; the project involved investigating original finishes and then painting and decorating with 23k gold leaf, glazes, multi-color stencils, tromp l'oeil and freehand artistry.

### Conrad Schmitt Studios, Inc. 800-969-3033; Fax: 262-786-9036

800-969-3033; Fax: 262-786-9 www.conradschmitt.com New Berlin, WI 53151

Creator, conservator & restorer of decorative painting: stained & art glass; ornamental plaster work & ceilings; gilding; murals, mosaics & statuary; for public & religious buildings; since 1889.

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Artisans from EverGreene Architectural Arts restored the decorative painted ceiling at Temple Emanu-El in New York City.

#### **EverGreene Architectural Arts**

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**Canning Studios** carried out the conservation, restoration and decorative painting of Battell Chapel at Yale University in New Haven, CT.

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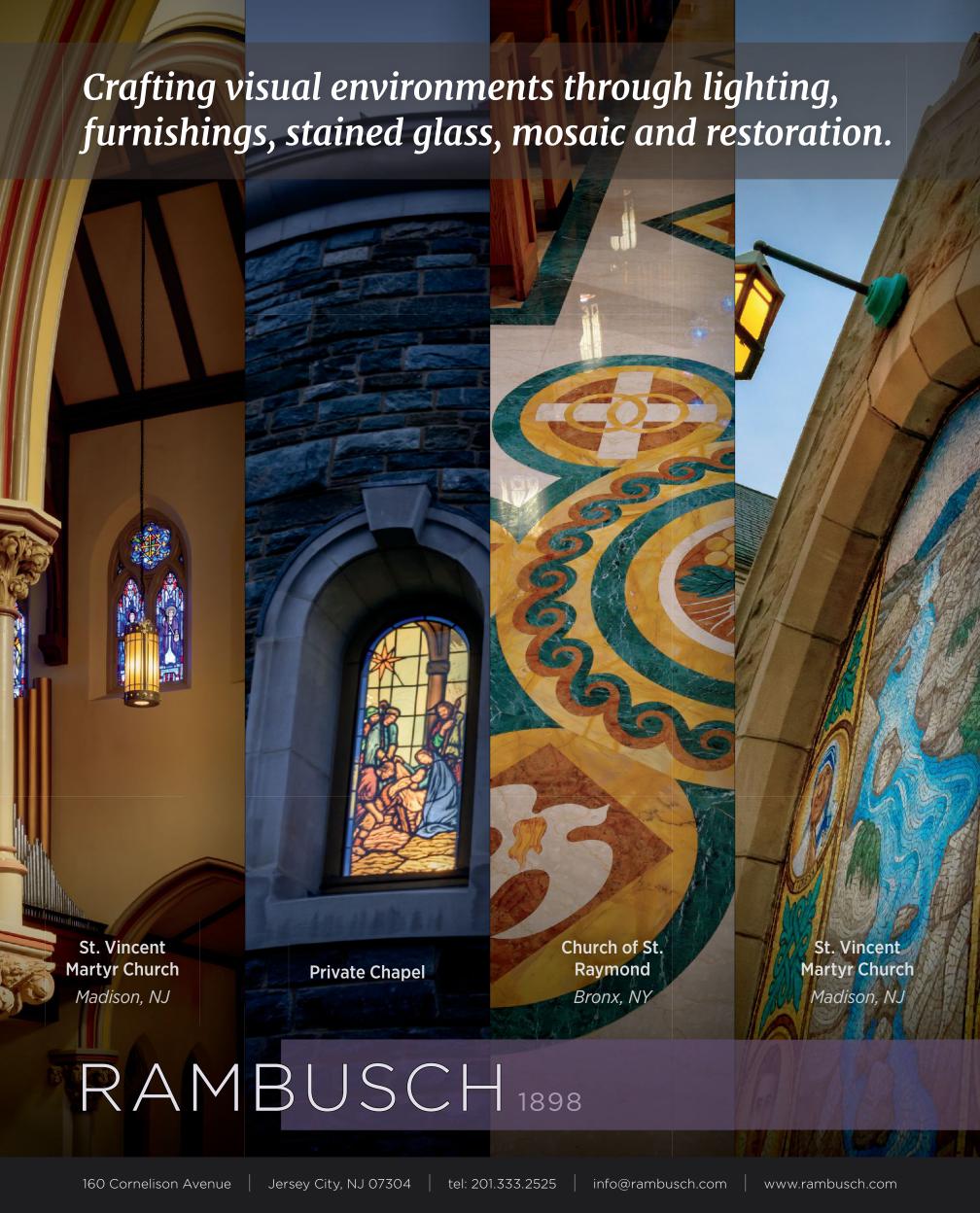
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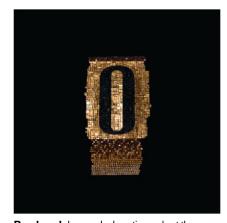
R. Alden Marshall restored and re-applied white gold stars and yellow gold gilding, decorative art, woodwork and sculptures in the St Cyril & Methodius Historic Czech Church, Dubina, TX.

### R. Alden Marshall & Associates 717-805-3114

#### www.raldenmarshall.com Galveston, TX 77551

Material science laboratory & preservation studio for the conservation of art & architecture: monuments, sculptures, paintings & murals; much more; projects include national historic sites as well as ecclesiastical commissions.

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Rambusch has worked continuously at the Basilica of the National Shrine of the Immaculate Conception in Washington, DC; shown here is a gold tesserae mosaic sample from the dome.

## Rambusch Decorating Co. 201-333-2525; Fax: 201-433-3355

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#### Rohlf's Stained & Leaded Glass Studio

914-699-4848; Fax: 914-699-7091

www.rohlfstudio.com

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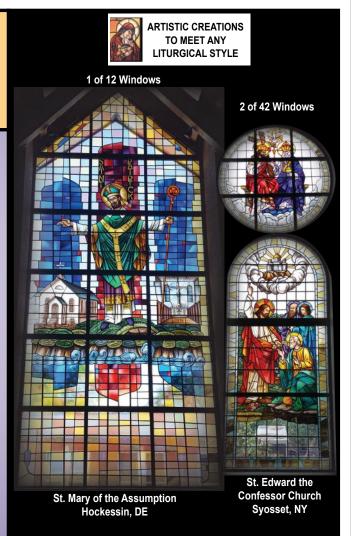
A Family Treasure Spanning 4 Generations

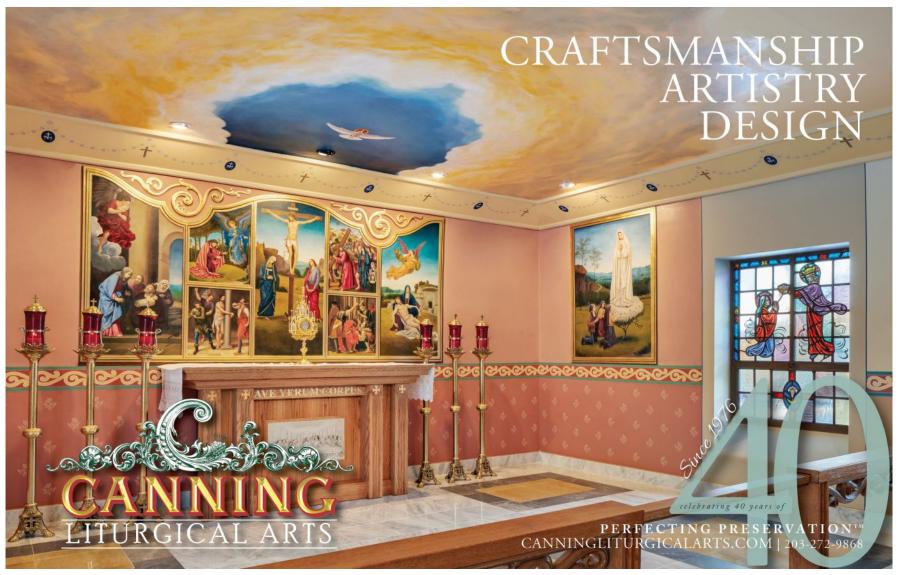
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# Not Your Grandmother's Historic House Museum

By Judy L. Hayward

istoric house museums are rising to the challenge of serving the interests of multiple generations. Boards and staff have come to understand that seniors, baby boomers, Gen Xers, millennials and the youngest among us are not only visitors, they comprise the present and future boards, staff, donors and stewards of a rich cultural patrimony found throughout the United States and in nations around the globe.

The questions arise: What does a museum do when its largest artifact is a historic house but has collections to manage? How do professionals balance the needs of historic buildings against those of the objects in collections? How do boards, charged with fiduciary and curatorial responsibilities, move past "pet projects and passions" of their members?

The answers can be found by bringing the concept of a design charrette to organizational planning, according to Robin Whitehurst, AIA, and principal of Bailey Edward, a Chicago-based architectural firm. He recently worked with the board and staff of the Madison County (Illinois) Historical Society (MCHS) to help the board with a new plan to use its buildings and collections. They had a great mission statement—Opening Doors to Madison County History—but it was time to rebrand their marketing and move away from being a historic house museum to fully realize their work and to share the stories of the entire county.

The group owns an 1836 Federal-style home, a library and a collections storage building. Madison County is large; at its inception, it extended all the way north to the Illinois/Wisconsin border. The collection includes Native American artifacts, a photo archive and a significant number of historic quilts—all valuable to telling the story of Madison County.

"There is a nearby house museum in Edwardsville, Illinois, the Benjamin Stephenson House, and it is doing a great job of interpreting early life in the county; so, we felt comfortable pursuing a new and different path," said Candace Ladd, president of the MCHS board.

Whitehurst recommends that this type of planning charrette begins by asking the largest possible questions. He started by asking the board to define what success looked like. They used the process of a SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) to help the board move beyond individual notions of programming to development of a shared vision

Discussions about budgets and realistic fundraising goals were balanced with the board's and staff's visions for using the objects in the museum collection to tell the story of Madison County. They determined the primary and secondary audiences for their programs and they discussed the importance of sustainability, energy efficiency, preservation, restoration and rehabilitation.

Afterwards, they focused on specifics by doing a detailed room-byroom analysis of activities and program goals; they studied the needs of permanent and changing exhibits and looked at the long-term needs of special considerations like climate control. A solid inventory was already



in hand to guide them about the collection.

The house had been home to a doctor originally, and while it had been altered significantly over time, the board and staff wanted to protect key character-defining features. They concluded they could interpret the history of the home adequately with a small, permanent exhibition, and that it no longer made sense to keep it furnished with period but not necessarily original furnishings.

It was determined that a faithful restoration of the exterior would increase the building's attractiveness to visitors. A window restoration fundraising effort is already underway on the society's website. It was also clear that the house needed a significant rehabilitation to accommodate better heating, ventilating and cooling for the collection, staff and visitors. The decision was made to use the building with some alteration for changing and traveling exhibits to encourage repeat visitation.

They produced an interpretive master plan that concluded the following goals:

- The exhibits should be more structured to tell a story.
- The historical society should develop into a sustainable organization whose value is appreciated increasingly by the community over the long term.
- Focus on Madison County, what is unique about the place.
- · History is life, not things; use things to animate life.
- Increase exposure of the collections to the larger geographic region.
- Treat the Weir house as an artifact, stabilize and upgrade the building, but don't interpret it as a House Museum.
- Attract more diverse visitors.

Clearly, the Madison County Historical Society in concert with Robin Whitehurst and his team has hit upon a strategy that serves the building and the collection. We wish them well.

Whitehurst is quick to point out that he has worked with exhibit designer, Paul Bluestone of Bluestone+Associates when consulting with museums in the past. And while every successful venture like this involves people working together, every successful project has a leader with vision.

When asked what he likes most about his career as an architect, Whitehurst replied, "The all-encompassing nature of the creative process: understanding the people, culture, art, history, environment, socio, economic and political implications of the environment, and then assembling these elements into a unique architectural expression for a particular place." He can be reached at rwhitehurst@baileyedward.com.

Judy L Hayward is the executive director of Historic Windsor, Inc., and the Preservation Education Institute in Windsor, VT, and the education director for the Traditional Building Conference Series and online education programs. She recently joined the adjunct faculty at Kennebec Valley Community College in Maine to teach a new online course, Architectural Style and Building Construction in New England. She blogs for Traditional Building online. She can be reached at jhayward@aimmedia.com.

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# Palladio Encounters "Pastiche"

#### By Clem Labine

n this issue, the editors are showcasing winners of the 2018 Palladio Awards. Normally this would be an occasion for unalloyed celebration. But by coincidence this event has also called attention to the absurd hostility that Modernist architects and critics have towards traditionalism. More on this later on.

It was no accident that we named our award program for traditional design after a 16<sup>th</sup>-century architect. Andrea Palladio (1508-1580) is arguably the most famous architect in history. Although fewer than 50 of his buildings survive—and these are confined to a relatively small area of northeastern Italy—his influence is still felt throughout the Western world. (For example, in 2008, the U.S. Congress declared Palladio the "Father of American Architecture.") Palladio's legacy is literally timeless.

Palladio's genius lies in the way he used humanist principles to create new architecture for his time. There really isn't a particular Palladian style;

rather there is a Palladian design philosophy based on combining scholarship with creativity. Although well acquainted with the text of Vitruvius, Palladio dug deeper by making measured drawings of surviving building remnants of ancient Rome. These on-the-ground investigations showed that the ancients were continually adapting the "rules" of architecture to solve new problems—while still employing the basic grammar of the Classical language.

With that knowledge to draw upon, Palladio did not copy the ancient buildings in his own work. Rather, he took the best ideas of the past and adapted them to create comfort-

able, functional and beautiful buildings for his own time. Palladio was a thoroughly forward-looking architect.

Winners of the 2018 Palladio Awards all follow Palladio's example. Viewing tradition as the accumulated wisdom of previous generations, they combine the best concepts from the past with liberal doses of their own creativity . . . creating buildings that satisfy both physical and psychic needs.

The Greco-Roman architectural tradition Palladio drew upon is based on the complexity of forms in the natural world. Architecture thus grounded is coherent and legible to all and provides the emotional reassurance of a known safe environment. By contrast, Modernist architecture builds upon abstract forms flowing from industrial technology—"geometrical fundamentalism" to use the term coined by polymath Nikos Salingaros. Little wonder that most people find much of Modernist design cold, chaotic, alienating.

#### The All-Purpose Insult: PASTICHE!

Paradoxically, many of today's architects and critics who swoon over the

brilliance of Palladio's reimagining of Roman antiquity nevertheless dismiss the relevance of his design philosophy for our time. I got a jarring reminder of the knee-jerk antipathy that Modernist critics hold toward tradition when I ran across a couple of mainstream reviews of one of 2018's Palladio Award-winning projects. While grudgingly admitting that the building fits in nicely with its surroundings and seems to function well, both critics could not resist tossing in the automatic insult for traditional design: "pastiche." The implication is that no creativity was involved; the work is merely copying.

Pastiche is defined as "a literary, artistic, musical, or architectural work that imitates the style of previous work." The key word is "*imitates*." Most artistic endeavor is influenced by—but does not directly copy—what has gone before. The issue is when does adaptation, reinterpretation, variation, reworking or modification cross over into the mortal sin of "copying"?

Certainly, Modernist glass boxes that clutter our built environment bear an aching sameness. After all, there are just so many ways to handle the geometry of straight lines, flat planes and sharp corners. Any objective observer would concede there certainly is a lot of adaptation and reinterpretation of the Modernist style going on. But do critics ever use the word "pastiche" in reviewing Modernist constructions? *Never!* 

According to Modernist orthodoxy, the charge of "pastiche" could even be hurled at Palladio himself. He cheerfully used stylistic elements and proportional systems borrowed from a previous era. Even though

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Critics invariably reserve the all-purpose insult "pastiche" for traditionally-inspired designs. However, much of Modernism—which is never so censured—is highly imitative in its use of unbroken planes, rigid angles and flat roofs.

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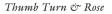
he made no direct copies, his stylistic precedents are plain to see. That's enough to qualify Palladio as a practitioner of "pastiche" to today's critics of traditionalism.

But Palladio's work and that of most architects, whether Modernist or Classical, is "allusion" i.e., an implied or indirect reference. But allusion is not copying. To hang the tired insult "pastiche" on traditionalism—and to ignore similar imitative practices in Modernism—is hypocritical and short-circuits rational analysis.

So as we celebrate the 14 winners of the 2018 Palladio Awards, I hope we can also banish "pastiche" to the Dumpster of Misused Words. The sloppy logic associated with its current usage should be replaced with more precise and nuanced examination of allusion's influence on design of all types. In the meantime, let us all salute this year's Palladio Award winners who use historical allusions to make architecture that is legible, functional, beautiful—and very much of our own time.

Clem Labine is the founder of Old House Journal, Traditional Building and Period Homes magazines. He launched the Palladio Awards program in 2002.







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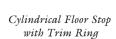




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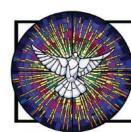
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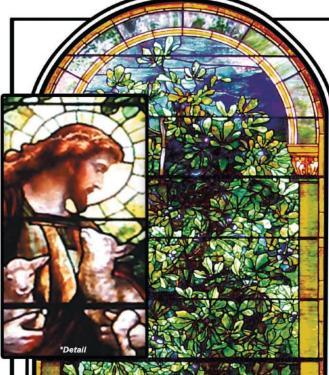
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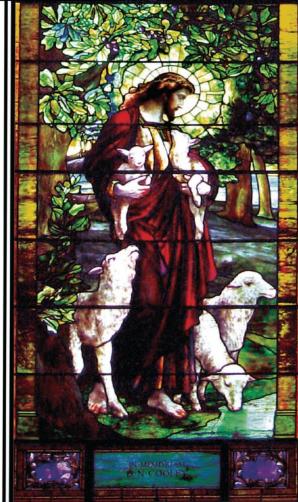
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